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A JOURNAL DEVOTED
 TO BEES
 AND HONEY
 AND HOME
 INTERESTS.

ILLUSTRATED
 SEMI-MONTHLY

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No. 3.



I TAKE IT BACK, Mr. Editor. After reconsideration, I believe it's a good plan to have the veneers in shipping-cases.

THOSE CARAMELS I bragged about were made by the regular recipe in the honey-leaflet. If you want good caramels, take honey of good flavor, and then don't spoil the flavor by too much cooking.

PLAIN SECTIONS, according to L. A. Aspinwall, in *Review*, cost 20 per cent less than old style, save 20 per cent in shipping-cases, and he thinks 11 per cent less wood, besides greater beauty, makes quite an inducement to the purchaser.

DOOLITTLE puts sections in crate as fast as scraped. Hasty objects. "Not favorable to assorting." Hope they'll fight it out. The "assorter" of this "locality" says there's no time when you know so well the grade of a section as when you've just handled all sides in scraping.

DOOLITTLE says in *Progressive* that good colonies outdoors have brood in January, and none in cellar when set out in April. Why that difference? Does that paradox on p. 876 explain it—the colder the weather the warmer the center of the cluster? [I guess that is so, doctor.—ED.]

"POSSIBLY EATING so often of scrapings, in which honey is mixed with propolis, hastens the death of the honey relish" with beekeepers, says Reviewer Hasty. I never knew beekeepers did that. Isn't that a peculiarity of your "locality," Hasty? Explain, if you don't want to be cast out.

A MACHINE to clean sections has been a desideratum. The one invented by L. A. Aspinwall, and given in *Review*, may be just the thing. [There is no doubt that plain sections offer greater facilities for machine scraping than the old style; and I rather predict that, in time, every bee-keeper who produces from 2000 to 5000 pounds of comb honey or more can not afford to get along without a machine scraper. In another column we show the As-

pinwall machine. I hope that, before the season is out, we shall be prepared to furnish small machines that can be sold at a nominal cost. We are already studying on the matter now. Just what style to adopt will depend upon circumstances.—ED.]

J. M. MITCHELL says, p. 53, that when a swarm is placed on the old stand, returning field bees unite with the swarm—just the thing we want in this region. Then the swarm will give more surplus than both together if field bees returned to old colony; and in the latter case the old colony might swarm again till very weak.

AMOS I. ROOT, you've struck a good thing, p. 62, in that dish regularly supplied with nickels and cents. Now let's have another place where the wife can always have a few dollars to do with just as she pleases, without asking any one. Now, can you furnish some pills or powders that will make a woman feel she has a right to such money without saving it by doing her own washing?

KEEP IT UP! I mean the good work of educating the public as to the real value of honey. Don't you be the least bit uneasy, Mr. Editor, for fear you harp too much on that string. [Thank you, doctor, for your encouragement; and I should like to know if our other readers are tired of having me harp on that string so much. It is my purpose to harp just long enough to secure the end desired, even if it does make some of my good friends a little tired.—ED.]

FOUL BROOD. R. L. Taylor says in *Review*, "The plan insisted on by some, that the colony be shaken out into still another hive after being allowed to build comb four days, I have proved in a hundred cases, without a single failure, to be entirely unnecessary." That stands good till contradicted; but it will take only one case of failure to knock over these hundred successes. If that one case doesn't come to the front, it will be a good thing to avoid unnecessary trouble.

LAST SEASON I had a wasp-nest built in a section like that picture on p. 49, only the section was beautifully completed, the honey built all around the nest. The nest was built on the foundation while it was off the hive (I've seen a number such), and I couldn't for

a minute suppose that a wasp would commence or continue work in a section occupied by bees. [Why didn't you have a photo of it taken, doctor? I will say to our readers in general that I am always glad to get novelties of this sort. Any kind of freak is interesting, and in some cases they lead to a matter of scientific importance.—ED.]

A NICE THING it was for Mrs. Axtell to have a sociable time with those 20 women, p. 54; but when I read about it to a certain woman she said, "I can clean 1200 sections a day right straight along all alone, and not gash a section, and I don't believe I'd care to have the mess of 20 women, and get them their dinners, for the sake of getting 1500 done." I still think the sociable time was a good thing, but it might be best to separate the two things.

PLAIN SECTION is shorter and better than no-bee-way section. [We studied not a little on what name we should adopt for the new section. The "no-bee-way section" was a good explanatory name, and answered very well while we were introducing it. Finally Mr. Calvert suggested the "plain section." But it seems that Mr. L. A. Aspinwall, of Jackson, Mich., who has used these sections successfully, had also before us adopted the same name, and it must be it is right.—ED.]

I CAN'T SAY how much honey was saved, or how many swarms prevented, by blocking up hives—wish I could. At a rough guess I should say that it took away at least one-fourth of the desire to swarm, and that's a big thing. [I wish there were some way by which we could get at how much more honey and how many swarms could be saved; but I do not suppose it is possible to estimate any closer than you have given it. I believe your figures are conservative rather than otherwise.—ED.]

I CAN'T AGREE with you, Mr. Editor, when you say, p. 41, that staples "will not punch into the wood like a nail head." Just try if you can punch a flat nail-head into the wood as much as a staple. I like staples for end spacing, and I mean to try them for side spacing. But I like nails for side-spacing much better than I expected. They do not catch in the wire cloth, and they don't trouble half as much as I supposed about getting frames past each other. [I had forgotten, doctor, that your nails had heads on. Well, to get right down to it I do not suppose that either one will punch into the wood enough to make very much trouble. Of course, your nail-heads do not catch on wire cloth, because you have no use for an extractor, all your honey being comb.—ED.]

I'VE JUST TESTED one of the 1898 T tins mentioned on p. 64. With 10 lbs. weight it sagged $\frac{1}{4}$ inch. Please don't think of putting such a failure on the market. [In my own mind, doctor, you are a little too severe on the T tin in question. I can not, by any combination of figures, make out that the ordinary T tin is subjected to a strain of 10 lbs. in the middle. If you can make out more than 5, trot out your figures. Moreover, you forget that the T tin in question is to be used with the new fence; and that the plain sections and

fence are keyed up solid. Why, the sections would almost stay in position without the T tins. In actual practice I doubt very much whether there would be very much more than about two or three pounds strain on the tin, under any circumstances.—ED.]

ACCORDING to Doolittle (and that's generally equivalent to saying according to the facts), long confinement is the real cause of all our wintering troubles, of course understanding that cold makes confinement worse. The disasters of the winter of 1882 came from the *long-continued* cold, three-fourths of all the bees in the United States being lost. Doolittle had 90 colonies on summer stands; they didn't fly for nearly $5\frac{1}{2}$ months, and only 15 came through, and they wouldn't make three good colonies. He had 55 in a cave, and 53 came out strong.—*Progressive*. [That is a pretty good argument for the cave for such a winter and in his locality; but in our climate, with the average of winters the outdoor bees were ahead in strength and percentage of wintering.—ED.]

THE *American Bee Journal*, speaking of its department, "Beedom Boiled Down," says:

The Boiler boils, and also stirs
The stinging, seething mass;
Then skims it off, and still avers
'Tis yet but second-class.

This leaves one in doubt whether the Boiler lacks capacity to select the best from other journals, or whether he thinks no first-class material is to be found outside "The Old Reliable." Or was the trouble that "mass" and "second-hand" wouldn't rhyme? [Say, doctor, you tell that boiler to keep on "biling," whether the stuff in the boiler is first, second, or third class, or whether the material came from the "Old Reliable" or from some of the younger reliables.—ED.]

THAT \$5.00 A DAY that you estimated for my last year's work, Mr. Editor, is not far out of the way; if any thing, it ought to be a shade higher. But I can't do that every year. [I draw an easier breath, doctor. I was afraid that you might tear my figures all to pieces, for you sometimes make fun of my arithmetic; but I am glad now if we have one really authentic case where, under favorable conditions, even as good as five dollars a day can be made by keeping bees. I once asked a mason how much he got a day.

"Three and a half, sir."

"Why, you ought to be pretty well off."

"I just barely make a living, sir."

"Why?"

"Because I do not average more than 150 days' work in a year. Give me two dollars a day the year round and I will jump quick at the chance."

Now, doctor, I do not know whether you are like the mason or not; but at \$5.00 a day one could almost afford to lie off the rest of the year. But I suppose where the rub comes in in your case is that you can not make that five dollars a day, every year at least. But I believe one thing is certain—taking the years as they come, you can average better than your farmer neighbors around you. See what Mrs. Axtell says upon this point in this issue.—ED.]



NEIGHBOR GREENFIELD AND THE BEES.

Corrections; Peep-holes in Sections; Big Pumpkins; Acetylene Gas, etc.

BY S. A. NIVER.

Mr. Root:—When I arrived home from my trip collecting for the honey, GLEANINGS lay on the table, so of course I had to glance over that first, and several audible smiles were the result. Your memory is a little twisted on a few points—notably on neighbor Greenfield's struggle with "six sw'a'ns" in the air at once, and he bareheaded, barehanded, barefooted, etc. Now, the truth of that yarn is, "six sw'a'ns" on one limb—all in one funeral-pile—and Mr. G. encased in big boots, veil, gloves to his shoulders, and perspiration and profanity too numerous to mention, dancing a regular can-can with his old dishpan, trying to get them spread around into six lives.

True enough, he ordinarily goes among his bees rather *bare* in respect to head, hands, and feet; but they were too savage for even him that day. Poor old chap! his buckwheat honey sold for 8 cents, and clover for 9; and, after deducting expenses, 7 and 8 cents is just about the story.

You say in editorials, "Will he now tell us something about collecting? Does he go at his poor pays rough shod?" Well, no; not a poor pay to talk about this year. Three failures in four years, and amounting to only \$25 loss, seems to me to be a very lucky record. But you may remember that my fighting weight is 120 lbs. (18 ounces to the pound), and so it behooves me to "go slow" about this "rough-shod" style. I have extended time to some customers, and been very careful to make them feel free to ask for extra favors. The result is that I have a very friendly lot of customers who express themselves as well pleased all around, not only with the honey, but especially with the style of package—non-drip cases with veneers—and there comes in an answer to one of Dr. Miller's objections to the no-bee-way section. The veneers hold them apart just right to get a grip on them with the finger and thumb nails. Careful selling is a great help to easy collecting.

One point I did find *new* to me, and it has bothered me ever since. Three of my old customers were captured by a New York drummer who sold them extracted honey for baking honey-cakes. The odd part of it all was that they should pay him $2\frac{1}{2}$ to 3 cts. per lb. more than I had asked them for the last lot I sold them (which had given perfect satisfaction, better than the other fellow's honey), and the reason they gave for thus throwing away money, in one case nearly \$30, was that it was too much trouble to look up our address and order by mail. Wouldn't that make you tired? I have been studying on some unique sign or advertisement to hang up in that

man's bakery so that he will have our address always before his eyes. How would a queen-bee, about the size of a Christmas turkey, holding our card, do?

Well, Ernest, this chat is running on at a 2:20 gait, and I haven't touched on bicycles, acetylene, big pumpkins, nor those holes in the corners of Morton's honey. Say—don't put that point *too* strong in booming your new fence. There are peep-holes in *every* box of honey Morton has ever produced. Look at those he shipped you to Medina. Danzenbaker had *one* section with nary a peep-hole—the only one I ever saw. To be sure, the fence helps to reduce the *size* of 'em, but they are *there* all the same.

I must send A. I. a few seeds from a large pumpkin I struck down among the Pennsylvania Dutch. It weighed 135 lbs.; and the odd thing about this variety is its *keeping* qualities, and its fine flavor for pies. I saw one of them in a restaurant window, which had been there *three* years, so the proprietor solemnly declared; and Jake Daub (one of my customers) told me that he could vouch for its being there *two* years, but I would have to take the man's word for the odd year.

I called on D. N. Long, of La Salle, N. Y., and had a half-day chat over that new gas, and I am full of the idea of going to Los Angeles to go into the business. Mr. Long says he thinks the calcium carbide can be manufactured for *fifteen* dollars per ton.

How on earth *can* old bee-keepers differ so widely in their opinion of the merits of the identical things used in the apiary? That great and trusted authority, Dr. C. C. Miller, jacks you up sharply about your section-holder, and puffs his T super. I have never had much experience in using T supers, and perhaps we are all *off* in regard to them; but this I *will* stick to—from what little experience I have had with them I think they are the meanest, most measly old truck I ever had any thing to do with. Perhaps it is but fair to Dr. Miller to say that all the experience I ever had with the T super was in smashing Morton's old ones to build a fire under the boiler.

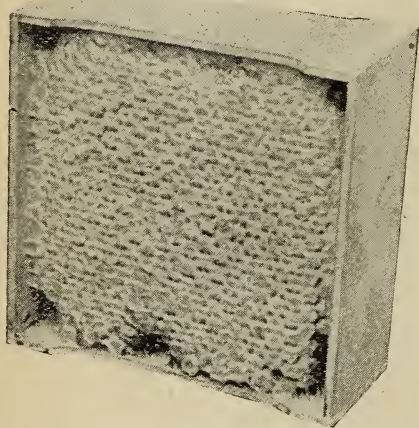
Groton, N. Y.

[When I read your letter through, friend N., of course an audible smile came from my face—if there is such a thing as an *audible* grin. I think I must have felt like the culprit before the judge when the latter turned to him and said, "Thirty days and costs."

Really, friend Niver, you must not be too hard on my memory. You know I do not claim too great things for it; but I do insist that you told me that neighbor Greenfield worked among his bees bareheaded, barehanded, barefooted, and I kind o' got the impression that it was on this particular occasion that he was thus rigged out. However, I am almost glad that I did get things a little mixed, for I do not think anybody else could have described the situation quite so vividly as you have done.

Now about those peep-holes. Look here, friend N., I am not going to give up quite so easily, although I may have to back down a

little bit. You may remember that the fence we are making and putting out is not quite the same thing as the fence that I saw when at the home of our mutual friend Mr. Morton. The cross-cleats of our fence drop down a bee-space from the top edge of the sections, and the top slat runs nearly to the top of the section. The cleats in Mr. Morton's fence are as long as the sections, and the top slat drops down a bee-space, or nearly that. You see, the conditions are exactly reversed. Mr. Danzenbaker and others who had been using the fence decided that it was an advantage to have the cross-cleats drop down a little bit, so that the bees could pass from one section to another without the necessity of having so many peep-holes or corner holes in the sections; and when I made the statement you refer to I had in mind a fence such as we were sending out.



SECTION OF COMB HONEY SHOWING CORNER HOLES.

You speak of peep-holes, and refer me to the samples of sections that you sent here. Not one of them has corner holes like those I was describing; but I will grant that they have peep-holes—that is, wee little holes made by one or two cells without any base between them, and just barely large enough for a bee or two to crawl through. The general impression one would get in looking over Morton's honey is that it had no corner holes, because such holes as they do have are so small in comparison with the holes found in the ordinary $4\frac{1}{4}$ two-bee-way sections. Now, to give you a better idea of what I mean I show you herewith a picture of an ordinary $4\frac{1}{4}$ section of honey. At each of the four corners there are big holes almost large enough to run one's little finger through, and these holes are rounded off. In the case of the ordinary one-piece section the openings are of such a character as to favor the construction of such holes. Mr. Danzenbaker showed me quite a lot of his honey produced with his fence; and while I admit there were peep-holes, they were not the great big holes which are shown in the view above.

But read the last paragraph of W. D. Soper's article just following. The Aspinwall separator permits the bees to pass freely from one section to another in much the same way as our fence does. I may have borne down too strongly on the point, but I know there is *something* in it.

Regarding acetylene gas, let me caution you to be a little careful. One of the factories in Jersey City, where the calcium carbide was made, and where, indeed, the proprietors claimed there was no possible danger of explosion, had a most terrific blow-up on the 24th of December, demolishing the works, destroying life, and damaging considerable property in the vicinity. After the disaster the company essayed to locate in New York city, but the authorities refused to allow them in the city.

The calcium carbide looks like innocent stuff; but if water gets on to it in a room or basement, there will be a terrible explosion the moment a lighted lamp is brought near it. The very explosiveness* of the agent is just the very thing to make it valuable to run gas-engines where coal is expensive.

I do not mean to say that acetylene gas can never be used for domestic lighting; but it is at present one of those dangerous explosives for which we need to have a certain degree of respectful fear.

Big pumpkins—well, I am sorry to say I do not know any thing about them.

Regarding T supers, that's right—give Dr. Miller fits. But the good doctor insists that he has tried other forms, and does not like any other nearly as well as the T super. Why, he says he can not afford to use any thing else, because it consumes too much time.—Ed.]

SOME KINKS IN SELLING HONEY.

How to Get the Trade, and How to Hold it; Aspinwall's Comb Honey in Plain Sections; "No Holes in the Corners at all."

BY W. D. SOPER.

I see in GLEANINGS you wish honey-dealers or jobbers to tell their experience in selling and collecting without loss. Of course, my experience is different from Niver's, as the most I sell is in my home market, a city of 25,000 inhabitants. Selling comb honey is different from extracted, in this way: It is a staple. The storekeeper knows he can sell comb honey; but extracted he doesn't know about. I go at it this way: I use mostly quart pails. These I pay 38 cts. per doz. for. I make pail and honey weigh just 3 lbs. This I wholesale at 20 cts., and retail at 25. I go around to the stores and put in four to six for them to sell, telling them if they don't sell I'll take them back. Well, I don't have to take any back. I make my rounds once a week; by this time they have them sold. They pay for the last left, and I leave some

*We had an order for calcium carbide for foreign shipment, but the steamship on which the goods (bee-hive stuff) were to go refused to carry the carbide.—Ed.

more. In this way the storekeeper has no risk to run nor money tied up in it.

I am now using some of Muth's honey-jars. I leave them the same way. Always use a nice attractive label with your name on. I also use one reading like this:

"The honey contained in this package is absolutely pure, and complies with the pure-food laws of Michigan."

This has lots to do with satisfying the people that it is pure.

Well, you will ask, "Do you sell much?"

The answer is, "Yes, I am now on my 7000 lot." Do I lose any poor accounts? No. If there is a storekeeper who gets hard up, and owes me, and can't pay, I take groceries, as my family can always use them. If a storekeeper says he would like some comb honey, and hasn't the cash that day, I always leave what he wants. If you have had any experience, such men are not very particular about the quality. When I can I leave them some No. 2 honey to sell out. In this way I get rid of all that comes to me. I never crowd any one for my pay—give all the time needed.

Well, you will say this takes capital. Yes, it does in a town like Jackson. About \$300 will do. If you produce the honey, then you don't need any. As I produce very little, I have to buy my supply. I pay cash.

Now let me give you a point right here. If you start in to furnish your town, keep it up and see they all have honey in their stores. If you neglect this you will find some one else has been there with honey, and you are out. Always buy all the local honey offered you, paying whatever you can afford. In this way it keeps the honey off your market, and has a tendency to keep prices up.

I think the no-bee-way section is going to take the lead. Mr. Aspinwall, of Jackson, has 3000 lbs. in this kind of section. I tell you, it is worth seeing his honey. It is as square as a piece of plank, and no holes in corners at all. Put me down as one in favor of no-bee-way sections and fence separator.

Jackson, Mich., Dec. 23.

[Your last paragraph, friend Soper, is very opportune, for I am going to throw it right in the face of friend Niver, who, in referring to these same corner holes, says I must not "put that point too strong." By the way, I am going to ask friend Aspinwall to send us some photos of that same honey, and will have them reproduced in half-tone.—ED.]

"FACING" COMB HONEY.

To What Extent Does the Practice Exist? Is it True that Comb-Honey Producers are a Dishonest Set?

BY AARON SNYDER.

I have been buying and selling honey for many years, and can come to no other conclusion, after repeatedly seeing positive evidence, than that bee-keepers who produce comb honey (I will say nothing about extracted-honey

producers), and crate and market the same, are dishonest. Let me tell you why I have come to this conclusion. Almost every case of comb honey I ever bought has been "faced"—that is, the outside row of sections, next the glass, was nicer than the rows in the middle of the case filled up with inferior quality, and that very act alone, done, too, by the producers themselves, has caused more mischief and done more to lower prices than all other evils combined as regards the standard of comb-honey production.

A few days ago I went into a store in this city to sell some extracted honey. The lady who manages the store used very plain language in telling me that all honey-men were frauds. I tried to convince her my honey was pure and all right, which it was; but she would not listen to me. She then called my attention to a case of comb honey she had lately bought, saying: "Just look at that case of honey over there on the counter;" and added that if we bee-keepers would cheat in comb honey we would cheat in extracted honey too, and gave me to understand she wished I would leave the store. This lady had bought what she supposed to be a case of nice honey. The outside rows of sections were very nice, but the middle ones were very inferior. She said she would never buy any more honey of that house, meaning commission man; but don't you see the commission man was not so very much to blame? Most likely he had never opened the case, supposing it was put up honestly, and *knowing* it should have been; and now don't you realize the whole blame rests on the man who crated the honey? He was dishonest. Grocers the world over are finding fault with us bee-keepers for putting up honey as we do. They call us frauds, dishonest, slick article, and the like. It is a shame we as a great army of men must be looked upon as frauds, humbugs, dead beats, etc.; but there is no one to blame but ourselves. We deserve just what we are getting, and shall, so long as we continue to practice fraud and deception in trying to pull the wool over our neighbors' eyes in order that we may get a few more cents than honestly belong to us, while, in fact, we are getting less and less all the time, just because honey-buyers can not trust us. It's on the same principle of the farmer putting up apples when he puts a few nice ones in the bottom of the barrel then fills it up about two-thirds with little ones, then tops it out with the very best. Don't you see? Then he laughs to himself to think how nicely he has cheated some one; but, instead, he has cheated himself.

I know a farmer who several years ago had a lot of poor bog hay, and conceived the idea that he would bale it up in such a way that it would sell for first quality; so he engaged a man to "fix it up" by wrapping good hay all around the poor bog hay when baling it, putting the bogs entirely out of sight. This man shipped the hay to New York for sale, and in a few days had to pay a very nice sum as damages in order to avoid being arrested for fraud. It served him just right. He ruined his reputation as a man, and just so we bee-keepers

are ruining our reputations as men. Away with such kind of business!

I should like to mention one more case. Not long ago I drove out of town to a bee-keepers' place to buy some comb honey. I got a few cases picked out, then, looking up, saw a case up on a shelf that looked very nice, and asked if I could have that. He said, "No. That is some very nice sections I have assorted out to face up with." Now, brother bee-keepers, what do you think of this kind of business? I won't mention this man's name, but he lives eleven miles north of Kingston, N. Y.; and if he should see this in print it might do him good.

Kingston, N. Y.

[Mr. Snyder's arraignment of bee-keepers seems a little severe. I can not think that even a majority of our fraternity are guilty of some of the things that he so justly condemns. However that may be, I am afraid there is truth in much that he says—seldom smoke without some fire. It is certainly true that commission men are not entirely to blame for some of the difficulties that arise between them and bee-keepers.

It is easy—oh, so easy!—to face cases of comb honey. I do not think bee-keepers have any intention whatever of deceiving when they unconsciously, on seeing a nice box of honey, put it next to the glass. They do not put it there because they wish to convey the impression that all the honey which shows is of that character, *but* because the honey is beautiful, and they wish to put it where its *beauty* can show. We have had several lots of comb honey shipped us lately from different bee-keepers from widely separated localities, but I do not think there was any evidence of "facing" any of the lots that were sent to us.

If bee-keepers are guilty of this one sin they are no worse than farmers. A year or so ago I was in one of our large commission houses when a carload of apples was received and opened. As a lid was lifted off I remarked, "My! what beauties!"

"Oh! they will not look like that all the way down," said the clerk, with a smile.

"Why not?" said I.

"Because they never are," he replied.

"But don't your customers soon learn that, and find fault?"

"Not a bit. They *expect* it."

"I do not see how that can be," I said. "If I were buying apples that stood in front of your store, I should want to know how they would run *clear through* the barrel; and I should expect the *center* of the barrel to average with the *top*."

"You do not understand," said the clerk. "Our customers chiefly are grocers, or at least those who buy to sell again. They *want* their barrels faced."

I did not say any thing further; but upon a moment's reflection I made up my mind that some one somewhere at the end of the route made "a kick" at such a species of dishonesty, or that even the consumer had learned to expect (because he had to) that the apples in

the center of the barrel he buys are poorer than those at the top, or "facing," by about 25 or 50 per cent.

I wonder if it is possible that commission men *expect* to have their cases of comb honey faced. I wonder, too, if it is also possible that their customers, their grocery trade, also demand it. I can hardly credit it, for the great majority of comb-honey buyers pull out a section or two at random, and by these *random sections* the valuation of the honey is gauged, rather than by the "facing" behind the glass.

It seems to me it would do no harm to have this subject aired out a little. If we bee-keepers are culpable, let's hold up our hands, and confess. If we are not, then let us know the exact condition of things, both from the commission man's standpoint and that of the bee-keeper. It is a sort of family affair, you know, and we might just as well talk plainly among ourselves if the talk will result in good, as I have every reason to believe it will.—Ed.]

NIVER'S GRADING-RULES.

No White Clover for Next Season; California vs. Wisconsin as a Bee Country.

BY HARRY LATHROP.

I should like to say a word in favor of the grading-rules used by Mr. Niver, illustrated on page 844. I have graded my comb honey that way for several years, and find it very satisfactory. The bulk of the crop will be sold as "No. 1," or "fancy," according to the skill of the bee-keeper, favorable seasons, etc. The price of No. 1 should be understood to be the highest that could be paid for *honey*. The higher price paid for fancy is given for looks, No. 1 being every bit as good *for use*. No. 2 is the lowest grade that should be placed upon the market. There is a demand, as Mr. Niver says, for each of these grades in any color, if we explain the different ones with the price of each. A good many dealers like to have at least two grades on hand. I have no trouble in closing out my No. 2 at a price about 2 cents per lb. less than I get for No. 1.

This season I have got 8 cts. for No. 2 white, 10 to 11 for No. 1, and 12 for fancy in lots. My yield the past season was about 80 lbs. comb honey per colony, spring count. The best individual colony finished up 10 supers, or about 250 lbs., in 1-lb. sections. I prophesy no clover honey on this field next season; but we may get a crop from basswood, which failed in 1897. Why not from clover? Well, the plants were two years old, and all went to seed. They will die. Weather has been too dry to germinate more seed. But this county is well seeded, and a wet spring or fall sometimes will bring it up, and then look out for another big crop. It won't be in 1898, though. Many people do not understand that it takes two years to make a good crop of honey from white clover. After a big lot of seed has germinated during a wet season it is the *second* year of the plant that it produces the honey. The plants that gave us our big crop here this

year came up in the spring of 1896. Some of them bloomed, but there was no yield of honey from them the first year.

A short time ago I received a letter from my friend C. A. Hatch, now a bee-keeper in California. I had asked him to tell me whether he would rather keep bees in Southern California than in Wisconsin. I will give you his reply. "Yes, I would rather keep bees here than in Wisconsin—no winter here to kill off half your bees, but plenty of foul brood and every other bee-disease heard of." I am glad to know there is nothing worse against Wisconsin than the wintering problem. Some of us have solved that—at least I would rather some one would tell me how to dispose of overstock to good advantage than to tell me how to winter bees in this climate, without loss.

Browntown, Wis., Jan. 7.

[It would be interesting to know what the prospects are for clovers in other localities. I think it is safe to assume, however, that we shall not have as good a yield from this source as last season. The drouth last fall, in some sections at least, seemed to kill it down; but with the amount of rain and mud we have in Northern Ohio it seems as if there could be no drouth anywhere else; and yet the Californians say that, owing to a lack of rain, they do not expect very much of a honey crop next season; so perhaps it is just as well, friend L., that you are in Wisconsin, with its horrible winters, and not in California with its drouth and foul brood; yet I notice friend Hatch says he would rather live there.—ED.]

MANUM'S EXPERIENCE IN THE EARLY DAYS.

His First Bee-smoker; That Smoker-hook.

BY A. E. MANUM.

Early that spring I learned that a bee-paper was published in New York, called the *Bee-keepers' Magazine*. I at once subscribed for it, and also ordered King's "Bee-keeper's Text-book." Armed with this and Quinby's "Mysteries of Bee-keeping" I succeeded that season in making eight artificial colonies, with much satisfaction over my success. I bought six colonies of a neighbor, and took up four in the woods where bee-hunters cut bee-trees for the honey. With these and the original two I went into winter quarters with twenty, and came out in the spring with four weak ones. This was my *first* and *last* experience in wintering in the cellar.

This severe loss did not in the least check my enthusiasm, though I decided to "go slow" in the matter of making rapid increase. I began to open my eyes to the necessity of having strong colonies at the beginning of winter; and ever since, when I have followed this rule of having strong colonies in the fall, my bees have wintered well.

My second winter found me with 16 strong colonies, which were left on their summer stands, well protected by an outer case, where they wintered to my entire satisfaction.

The season of 1873 opened favorably. My

bees were strong, and the honey-flow was very good. I doubled my number of colonies, and secured over 300 lbs. of honey in 4-lb. boxes, which were then the modern improved boxes. This honey was sent to Boston, where it netted me 33½ cts. per lb. Up to this season I had never heard of or seen a bee-smoker, but had controlled my bees by blowing smoke on them from a burning roll of cotton or a piece of rotten wood. Some time in May, 1873, while blowing smoke into the entrance of a hive, and while in the act of drawing a long breath for the purpose of blowing a strong "blast," I drew in a bee which stung my palate. Well, you may well imagine I scampered for the house, somewhat excited, and called for liquor. Wife (half scared to death at my appearance) brought me a 4-oz. phial nearly full of brandy, which I drank at once. She declared it would make me drunk. But I told her I'd rather be drunk than dead. However, I soon got over the "scare," as the injury proved slight.

I then decided that there should be something better than blowing smoke from a stick, for the use of the apiarist. I remembered that, when I was a small boy, my father had a small bellows for the purpose of blowing the fire in the old fireplace, and I wondered why something of that sort could not be used among the bees; and in thinking the matter over, there developed in my mind a rude kind of smoker; but the question was, how to make the bellows. I went to a blacksmith's shop and examined a bellows, and there got the principle, and at once constructed my first bee-smoker. The bellows was very much as now made; but the barrel, or fire-box, was blunt at both ends, with a small tube projecting from near the upper end from which the smoke issued. I also fastened a *hook* to the bellows for the purpose of hanging the smoker on the hive when not in use.

I will here say that of late there has appeared in *GLEANINGS* an *improvement* on smokers, invented, as would appear, by Mr. Coggschall; but let me tell you, Mr. Editor, that I first used a hook in 1873, and have ever since. Young Mr. Boomhower, spoken of in *GLEANINGS*, got the idea of a hook from his father, who, in turn, got the idea and experience of using a hook on a smoker while in my employ in 1882; and you, Mr. Ernest, spoke of the convenience of such a hook as you saw on my smoker while visiting me nearly eight years ago.

In July, 1873, I heard of a *great bee-man*, as he was called—a man who knew all there was to be known about bees. This was Mr. J. E. Crane, who then lived in Bridport, Vt. I was very anxious to meet a modern bee-keeper, and consequently I visited him about July 20, and I assure you that visit was an agreeable one to me. Here I found a man who knew much more about bees than I did, or than I ever expected to know. I found Mr. Crane a very willing talker—not only very willing, but capable of imparting information on the subject of bee-keeping. After that, Mr. Crane and myself worked together, making many improvements in hives and fixtures. Mr. Crane was consulted as to the usefulness

of many of my inventions before adopting or offering them to others. To-day, as then, Mr. Crane is one of the shining lights in apiculture. During the season of 1873 I bought my first Italian queens of Mr. W. W. Cary, who was then one of the leading queen-breeders of America.

To be continued.

[I had entirely forgotten about the hook I saw at your place when I visited you eight years ago; but since you refer to it I do remember it.—Ed.]

THE BUCKWHEAT FIELDS OF NEW YORK.

Bees Hanging Out Not Indicative of Swarming.

BY G. C. GREINER.

The editor, after making his New York trip through some of the buckwheat sections of the State, gave us in a former issue some very interesting notes on the subject. He spoke in a general way, perhaps as detailed as his flying trip would enable him to make the observations. I am located right in the midst of one of those buckwheat sections. Every neighboring farmer grows anywhere from 5 to 20 acres or more every year. My own field of 8 acres almost joined the lower side of my apiary this past summer. Buckwheat honey forms a part of our honey crop every season, and occasionally it is all the surplus honey we have. It is thus that we are well acquainted with every thing connected with the plant.

One feature that may seem strange is the fact that it does not yield sufficient honey to induce bees to work in their supers until it arrives at quite an advanced stage of maturity. The fields may have reached their full growth; they may be white with blossoms; bees may work on it in considerable numbers, yet no surplus honey is stored. Many times I have heard remarks like this: "Greiner's bees are stealing my buckwheat honey," or, "My buckwheat is alive with Greiner's bees," and so on, but not a colony would be at work in its super. After a little we would notice the buckwheat scent in or near the apiary. It would grow stronger from day to day, until all at once all colonies would be doing their best in sections.

Another point is this: It secretes honey only during the middle of the day; at least, bees do not work on it very much early in the morning nor in the latter part of the day. In this, buckwheat is very different from basswood. When the latter is in its full flow, bees hardly stop when night sets in; they seem to be busy gathering honey until after dark, and ready to work again with the first break of day. Not so with buckwheat. The apiary is comparatively quiet in the morning and afternoon, the outdoor work being done through the middle of the day. We frequently notice at this time that bees hang out in large quantities in the afternoon, but not while they are gathering honey.

The editor claims, as repeatedly set forth in GLEANINGS, that "hanging out" is an acquired habit or notion which can and should

be broken up by proper management. I could never see it in that light. I believe bees are compelled to hang out by prevailing conditions which we can not help, neither will this hanging-out impair our honey crop in the least. When honey can be gathered, the out-hanging part of the colony is not the field workers; we often see hives covered with bees when at the same time section-work is rapidly progressing. In very hot weather, when we have a complete honey-drouth, field bees may possibly join the outsiders; but at the time of a honey-flow field bees will not be idle. We could not make them stay at home, loafing about when nature gives them a chance to work.

My explanation of bees hanging out periodically in buckwheat time is this: In the morning, at this time of the year, it is generally cool enough so that all the bees can stay inside of their hives without being uncomfortable. When it begins to get warmer, toward noon, the field bees begin to leave the hive, so that, by the time the noon heat would be unbearable inside of the hive for all the bees, a good portion of the field bees are absent, giving more room for those that remain. At the same time the commotion of the workers going and coming causes a circulation of air, which produces a beneficial ventilation. But the buckwheat flow does not last very long. In the early afternoon it dries up again. The field bees gradually gather up and crowd the hive to its full capacity; then, if the afternoon is hot, the only comfortable place is outside of the hive, and hanging-out is the necessary consequence.

It was a rare treat to look into the pleasant faces of our pioneers and authorities on bee-keeping at the Buffalo convention. Such names as Root, Miller, Doolittle, Elwood, York, Mason, Hutchinson, Hetherington, and many others have long been household auxiliaries with our families; and to see these men face to face, hear them talk, and talk with them, was alone worth more than a trip to Buffalo.

Naples, N. Y.

[There is no doubt that hanging-out is caused by conditions you have explained. But I am sure some, and perhaps much, of the regular hanging out can be obviated by either large deep entrances, or by separating hive-body from bottom-board by four blocks, *a la* Doctor Miller. I have had colonies that would hang out and loaf—do nothing, in fact, until a larger entrance was given.—Ed.]

MOUNTAIN PASSES.

Getting Bees and Honey over Them; Feats in Driving; Bean Fields, and Some Interesting Facts Concerning Them.

BY M. H. MENDLESON.

Mr. Editor:—If you will allow me I wish to correct a number of mistakes made by Mr. C. A. Hatch in his two last articles in GLEANINGS; and as many new comers ("tenderfeet") are apt to form wrong ideas and conclusions regarding this grand country they are excus-

able, as the change in climatic conditions of one season have serious effects upon the imagination.

Many will bear me out, that it is impossible to give positive, practical information about this country, its advantages, disadvantages, resources, etc., in one season's experience. No doubt Mr. H. has been conscientious in his statements; but such statements are apt to lead to wrong impressions and doubt upon the writings of the experienced.

Mr. H. must excuse me, for I do not wish to reflect in any manner upon his integrity. Mr. H., wild buckwheat honey is amber instead of white, of fine flavor, and very thick. There are much less than half migratory bee-keepers.

My large moving-racks are not unwieldy upon the roads I moved on the past season; but I had new teamsters, who had had but very little experience with big teams on our roads. In fact, they had been used to two and four horse teams on level farm land. If Mr. H. had seen our worst roads that I have hauled over for years back, then he would say, "*I don't know.*" The inexperienced teamsters of this season, one of them, would say, "You drive; I am afraid;" and the other would say, "I tremble in my shoes," and on fair roads at that.

Mr. John Arnott, the able superintendent of the Newhall ranch, of 49,000 acres, was one of the best teamsters of this State in times past, when he was in practice, and may be as good now. He drove a 24-mule team, with a heavy load, over one of the worst passes in this State, where the curves were so short he could not see his leaders—this, too, on one of the most dangerous passes, where the least bad driving out of the track would land all hundreds of feet down, none living to tell the story; but these big teams are thoroughly trained to do their respective work. The two swingers, or horses ahead of the wheelers, are the most important on these short curves, being trained to jump the chain (leading from the wagon that they haul by) toward the bank of an outward curve, or from the bank in an inward curve, along these dangerous places, and that, too, if well trained, without a word from the driver, in many cases. These are the bad roads, where unwieldy wagon-loads have been hauled over, and where Mr. H. would say it was an impossibility, as he is extremely skeptical as to possibilities here. We also do not run any risks of quicksands; for when there are floods, then the roads in most cases are unfit to drive, or, rather, to haul over. Our floods are few and far between, and of short duration.

The main cause of the loss of ten colonies in moving was that my springs were of insufficient capacity for the proper play for rough chuck-holes. Since then I have had an extra set made to order—a six-ton set—a ton and a half more capacity than I generally carry. This will allow of the proper play.

Right here let me state that I would advise all who buy the Spaulding springs (the best in the market) to get from $\frac{3}{4}$ to $\frac{1}{2}$ capacity more than they wish to carry, according to

their roads—the large capacity on the roughest roads.

My successful way of hauling bees was to prepare them the same for comb as for extracted honey, as they are supposed to be strong in numbers (if properly manipulated), and lower story crowded with brood; and when in this condition a super is absolutely necessary. With proper management bees are stronger in good than in poor years. A screen at the entrance is not altogether necessary. I have had, many times, better success with mainly top ventilation. At the suggestion of Mr. Hatch I lay over during the day after the first night out, which is contrary to my successful practice, as all bee-men with practical experience know that, while on the move during the day (and otherwise), bees will keep nicely clustered, quiet, and easy, and no worry; but a number of hours' rest, with a strong light day, is what does the harm. With the proper manipulation with me, bees will be stronger in numbers after a honey-flow, for there should be an abundance of brood comb with good queens. In following migratory bee-keeping in this section, the super should be full of good worker comb free to the queen, and more solid brood and less honey will be in the brood-apartment, or lower story, and consequent force for business.

To return to moving. I have had teams heretofore that could trot along where the roads were good, starting in the evening at 10 or 11, and drive 34 miles, and get to bean-fields by 9 to 11 the next morning—10 to 12 hours' drive, including a feed and rest for team after midnight. The team should have a day or two of rest before making another trip. I have had, in the majority of movings, my hives filled with honey, and queens crowded, in six days from landing in the bean-fields.

In addition to Mr. Hatch's statement regarding the preparation for crop for beans, the soil is kept cultivated through the winter to keep down the weeds as much as possible, and to keep the surface mellow so as to retain the moisture. After each rain the cultivation is followed. After the rains are all over, this cultivation is continued until the surface is dry for about four inches down. This depth of dry soil keeps the sun from heating and evaporating the moisture underneath. From the last of April until about the 20th of May, planting is done. The late planting is preferred by many, for the soil is warmer, and the seed matures more rapidly with the warmer weather, and a good stand is the result. Now, should there come sufficient rain directly after the planting, there forms a crust, and the beans do not come through; in fact, they rot, and the planting has to be done over with additional labor and expense. This extra seed is a big item, for it takes from 25 to 80 lbs. to the acre, 40 lbs. being about the average for limas, and 10 lbs. and up for small beans. Limas are planted from 26 to 36 inches between rows, and 12 inches apart in the row. About the same preparation of soil is practiced for other crops, or crops that are planted after the rains are over, such as corn, beets, etc. Barley, wheat, oats, etc., are sown during



THE INDUSTRY OF BEAN-RAISING IN CALIFORNIA.

the fall and winter; and by the time the rains are over, the ground is pretty well shaded by the rapid growth.

About July 1st the beans are nearly in full bloom—that is, with favorable weather; but the past season was exceptional, consequently unfavorable. The above date is about the right time to have bees in the bean-fields, then I get the full flow of honey. In the majority of seasons bees gather honey late in August and the first part of September from this source. Sometimes a week or ten days detention by teams is a season lost. The honey seems to pour in, and in two or three days the tops of the frames resemble so many snowflakes, the bees filling every nook and corner with beautiful water-white honey that makes us look with wonder and admiration. As we do not have very hot weather near the coast, the sun does not get hot enough to dry out the nectar. This is a fact, and contrary to Mr. H.'s statement, and years of experience have proven the above; but if we have an east wind, then it checks the flow for the time being, if it is not prolonged. I have had only two failures of crops from this source, and one of these was only a partial failure.

Ventura, Cal.

[The above description of teamsters, and teaming over those rough mountain roads, makes my very fingers tingle as I think of the trip that Mrs. Root and I took over to the Ojai hot springs with friend Wilkin and his daughter. We had a high-spirited livery team, and one of them they said was sometimes a "kicker;" and Mrs. Root was greatly concerned, for she did not consider *me* an experienced driver. I studied the horses and the roads all the way out—about forty miles, if I recollect. There was so much to see around the springs that we did not get started back until it looked as if we might be overtaken by night in the mountain canyons; so I commenced letting the ponies gradually get up to what might look like reckless and dangerous driving to a tenderfoot. I had studied the vehicle as well as the horses, and knew about what it would stand. The horses probably understood the mountain roads better than I did, but I cautiously let them out. Mrs. Root admitted, after we got home safely, that I had driven over roads that looked at first sight almost impassible, and at a higher speed than she had hitherto supposed was possible by *anybody*. Since that time, when she questions my skill in horsemanship I remind her of the Ojai springs trip.

Our good friend Mendleson has given us a big secret in describing the way they grow their bean crop. The ground is cultivated and fined up a long while before the beans are planted; and, again, they find beans will germinate better without having any rain to make a crust for them to break through. I know this is important. The best crops I have ever grown were where I had broken the ground repeatedly before the seed was put in. If this last working, just before seeding, is done just *after* a shower, so the plants may be up before another shower comes, you will make a big start in getting a crop, and will probably se-

cure a good stand. The *Ohio Farmer* said, years ago, "Always sow turnip seed just *after* a rain—never before." Turnips germinate so quickly they will be up before another shower catches them, probably. After they have two leaves unfolded, a shower will not harm them.

Along with the article, Mr. Mendleson sent three interesting photos which we reproduce herewith. Of the one shown at the top he says:

L. W. Thomson's bean-ranch, the largest one in the world, at Ventura, Cal.

Of the middle one he writes:

Thrashing beans on a side-hill west of Ventura—Ventura in the distance. The great bean-fields beyond Ventura, in the Santa Clara Valley. The white spot on the right is the surf on the Pacific Ocean.

Of the one at the bottom he writes:

This patch of beans is in a growing walnut-orchard, the vines completely covering the ground.

We "tenderfoots" of the East little know on what on extensive scale agriculture and apiculture are carried on in the West. As to the former, the views shown herewith will give a fair conception.—A. I. R.]

PLAIN SECTIONS AND FENCES.

Another Who has Used and Likes Them.

BY O. E. NICHOLS.

I have been a bee-keeper in a small way for about ten years. At present I have 40 colonies; but what I don't know about the little fellows is of far greater magnitude than what I do know. For some years I have been an interested reader and student of GLEANINGS; have taken a lively interest in its descriptions, especially so in Straws. The topics in the last few numbers, in regard to separators or no separators; bee-ways or no bee-ways; fences, section-holders, and their necessary adjuncts, have been both interesting and amusing.

On starting with bees I took good advice, and made haste slowly. I have made no radical change in my methods or fixtures, nor do I see any good reason at present for doing so. In reading GLEANINGS I have felt at times that I was years behind as regards up-to-date methods; but the wind-up for this year leaves the impression that I have been ahead. I began with the ten-frame Langstroth, and still use that size of brood-chamber, although often narrowing down to six or seven frames during the honey-flow. I have for some years used, of my own make, what I call a double chaff hive, having chaff on all sides except front and top, and on top when packed for winter. The hive contains two ten-frame brood-chambers with a 1½-inch division-board between, with room above for three crates tiered, and the hinged cover closed, the crates each holding 28 1¼x4¼x1¾ sections, or 84 in all.

I use a plain section, inclosed on all four sides by a section-holder of same width; also a cleated separator. The separator-board is ½ in. thick; 3½ in. wide; end cleats are ½x ½x5 in. long; inside cleats are ½x ½x5 in. long, so that the section is protected from pro-

polis everywhere except top and bottom edges, thus in a great measure preventing their being stuck up with it. By the way, we have a good supply of propolis every year. This plan gives a nice clean white section, with very little scraping. Sections filled out to within about $\frac{1}{8}$ in. of the edge can be packed snug without danger. During a heavy flow there is a tendency to bulge a little at top and bottom. I anticipate the same difficulty with the slatted separator or fence at such times. I expect to try next season a few separators with the cleats, except the end ones, even with the edge of the board, that to be in two parts, with a $\frac{1}{4}$ -in. space between, giving one bee-way through and also along both edges. I don't think I need paraffine paper to protect the sections.

I have never used a queen-excluder over the brood-chamber, for, except once in a great while, I have discovered no use for it.

Many may object to the extra trouble of separators and section-holders like mine. I think that separators and section-holders can be cleaned easier than sections can be scraped and sandpapered, and with less danger to the honey; and when compared with the present popular bee-space section taken from a crate without tops to section-holder, a bee-keeper of pride will never begrudge what little if any extra work or expense there may be.

Cincinnati, N. Y., Dec. 28.

[If the slats to your fence came up nearly even with the top of the sections, as ours do, there would be no bulging at top as you speak of.—ED.]

THE PRODUCT OF THE BEE.

Frequent Reference to This in the Bible.

BY JOHN CHRYSOSTOM.

As an example of industrious habits the bee is more often referred to than any other of God's little creatures—"the busy bee"—it is always called. Indeed, man himself is frequently conjured to avoid idleness by imitating the useful occupations of the honey-bee. Nay, more—in Holy Scripture this little worker is more frequently mentioned with favor than any other insect. Again and again we notice allusions to honey, showing how highly it was appreciated as an article of food—a product that was as favorably regarded by princes as by paupers. For instance, in Ecclesiasticus 39:31 we find the following sentence: "The principal things necessary for the life of men are, water, fire, and iron; salt, milk, and bread of flour, and honey, and the cluster of the grape, and oil, and clothing."

In another place, when God wishes to make known some of the riches of the promised land, he speaks to the chosen people through the patriarchs and prophets, and says it is "a land flowing with milk and honey." From this statement we must readily infer that the men of that time knew the value of honey as an article of food, and that God was offering them a great inducement when he mentioned the abundance of that commodity. Indeed,

it is stated that the manna which fell from heaven possessed the taste of honey, which may be regarded as the divine approval of this special product.

In the early days honey was considered a royal gift, and we see frequent mention of it among the presents brought to soften the hearts of kings and princes. When Jacob sent his sons a second time into Egypt to bring corn, and wishing to gain the good will of the governor, whom he did not then know to be his own child Joseph, he bade them "take of the best fruits of the land in your vessels, and carry down presents to the man, a little balm and honey," etc. (Genesis 43:11.) Then, too, it is related, I. Kings 14:3, that Jeroboam, wishing to consult the prophet Ahijah concerning the recovery of his sick son, sent his wife to intercede with gifts. "Take also with thee," said he, "ten loaves, and cracknels, and a pot of honey, and go to him; for he will tell thee what shall become of this child." In another chapter honey is named among the presents that the children of Ammon sent to king David and his followers when fleeing from his son Absalom. Besides, there is occasional allusion to bees and honey in Samson's love affair with the beautiful Philistine.

That God himself recognized a valuable food in the product of the bee, we have proof in the words of Isaiah. That prophet, speaking of the hour when the Eternal Word of God would come and assume our human nature, says (chap. 7:14-16), "Therefore the Lord himself shall give you a sign. Behold, a virgin shall conceive, and bear a son, and his name shall be called Emmanuel. He shall eat butter and honey, that he may know to refuse the evil and to choose the good." And, in the same chapter, verse 18-20, he prophesies: "And it shall come to pass in that day that the Lord shall hiss for the fly that is in the uttermost parts of the rivers of Egypt, and for the bee that is in the land of Assyria. And they shall come, and shall all of them rest in the torrents of the valleys, and in the holes of the rocks, and upon all places set with shrubs, and in all hollow places (verse 22); and for the abundance of milk he shall eat butter; for butter and honey shall every one eat that shall be left in the midst of the land." It would appear from the above that the Egyptians called the honey-bees flies, or at least that there were in the country honey-collecting flies.

According to St. Paul, if Christ be not risen from the dead, our faith is vain; and yet, in support of this fact it is recorded that Christ ate honey. St. Luke says, after the resurrection Jesus appeared to his disciples when they were assembled together, and, after wishing them "peace," and showing them his holy wounds, he left still more evidence of his being again in the flesh. "Have you here," said he, "any thing to eat? And they offered him a piece of broiled fish, and a honey-comb" (chap. 24:41-43).

Here we have many instances, taken from the words of inspired writers, which should strengthen our belief in the value of honey.

Notre Dame, Ind.

GOLDEN'S PLAIN SECTION SUPER AND FENCE.

Full Directions for Making the Fence.

BY J. A. GOLDEN.

Mr. Root:—I send you a photo of my arrangement of super for the no-bee-space section, and how I manage to change my leveled-

First, I make a mold to make the slatted separator in—see No. 1 in cut; it is made by tacking on to a smooth true board some ribs lengthwise just where you want spaces between the slats and the width of the opening. Transversely in the board, grooves should be cut to receive the cross-cleats. The cut will show (of course, make this pattern accurate

and true). Cut your old or new separator strips straight the width you desire, and the exact length of inside section-holder. Having the little cleats cut, and one chooses to tack them together, drop a cleat into each groove, then lay the slats in their proper spaces, placing another set of cleats on top over the under cleats; drive three tacks through each set of cleats, and lift separator out; clinch the small points, and your separator is completed.

But if one prefers to glue them, it is but a child's play. Having cleats and slats and a pot of hot glue, swipe one side of the little cleats, and put them in the transverse grooves, glue side up, then lay the slats on the glued cleats, and on the slats over the cleats lay another set of cleats, and over all a smooth board, and press one or two minutes; take out the fence and stack up, and keep weighted down for a few hours.

It takes Flody just two minutes to glue a one-fence separator.

No. 2 is the section-holder. It is made solid by nailing the section-slats to two end-boards, just so that four sections will fit between neatly; then nail on one side a cleated board to correspond with cleated separator, and one loose cleated side-board, No. 4, completes the section-holder.

The cut shows Flody filling a holder; but, scold all I would, she would laugh, and say,



GOLDEN'S SUPER FOR PLAIN SECTION AND FENCE.

down-comb bee-space sections to the no-bee space; also how I arrange the section-holder for the no-bee-space section with slatted separator.

I want to say to all who want to try the no-bee-space sections and slatted separator that they will find this arrangement far the handiest and most accurate of any plan—at least that I can suggest.

"Uncle Amos would say that we were getting quite tony, taking our nice gallery to put together our bee-fixtures—it's just too preposterous!"

No. 3 shows one of our bee-way supers, filled with the no-bee-space sections; and holder No. 5, showing how they are held in place. No. 4, a loose side-board, is slipped in, and wedges pushed down between holder and side, and the body of the super holds them permanent, and clamps sections bee-glue tight.

No. 6 shows three sections of honey with the projecting edges clipped off by a circular saw.

Now, friends, if what we have said, aided by the picture, will be the means of helping some poor bee-keeper out of a query as to the no-bee-space section method, then we have accomplished all we designed in its publication.

SMOKER FUEL.

People may talk about smoker fuel; but dried sunflower stalks, leaves, stems, crown, and all together, lay all other fuel in the shade so far as controlling vicious bees is concerned, giving a dense yet pleasant smoke, holding fire much longer than the majority of fuels recommended. Cut up while green, and cured in the sun, then stored away, it is both handy and inexpensive. Try it.

Reinerville, O.

[Our regular standard fence is turned out on a special gluing-machine; but for odd-sized or irregular, we have a device a good deal similar to what Mr. G. describes, for nailing or gluing. On the last named, we can glue about 50 complete fences per hour, for one person.

Mr. Golden, if I mistake not, has used the plain section and fence for two years back, and has found them to be a success in every way. He, like quite a number of our brethren, has been ahead of the times, and, like another progressive bee-keeper, Mr. Aspinwall, he has a machine section-scraper that I hope to illustrate in a later number. As he is a photographer, he is able to show up his ideas in a little better shape than the majority of bee-keepers.

We are glad to make the acquaintance of Miss Flody, and hope we may have the pleasure of meeting her again, not only at bee conventions but over the pages of the bee-journals.—ED]

BEE-KEEPING ESPECIALLY ADAPTED TO WOMEN.

Good Results from Winter; Bees Paying Better than Farming, even when Comb Honey is only 8 and 10 cents.

BY MRS. L. C. AXTELL.

Another year has passed, and I will now send in our report. Our bees wintered without the loss of a colony. One flew away in early spring. We wintered 150 colonies. Having so much small fruit to care for we saw that we should have to have our bees in readiness for swarming before time for picking strawberries, as they come in just before

swarming; so we put sections on all good to fair colonies at the time we clipped queens' wings in May. We never before put them on so early. As I did not have any help, I thought I would see how much one woman could do at bee-work by much thought and few steps, and all needed rest. I got all sections on our colonies that could bear them early. My experience is, bees are better off if left alone than to be worked with by much of the help we have had in past years.

We found it greatly prevented swarming to get sections on early. The bees seem to get used to having the sections on and seemed at home in them, and all began storing honey just as soon as there was a surplus beyond filling brood-nest. Some began working in sections before the brood-nest was full. The consequence was, we had so little swarming that we really felt we had no natural swarms. Nearly all were supersedures, though we got 36 lbs. per colony on an average; 150 hives of bees, spring count, and increased 12 colonies. It worked so well putting on sections so early we will do so next spring again; but care must be taken not to put sections on weak colonies, as it will make them more slow to build up.

INCREASING THE CONSUMPTION OF HONEY.

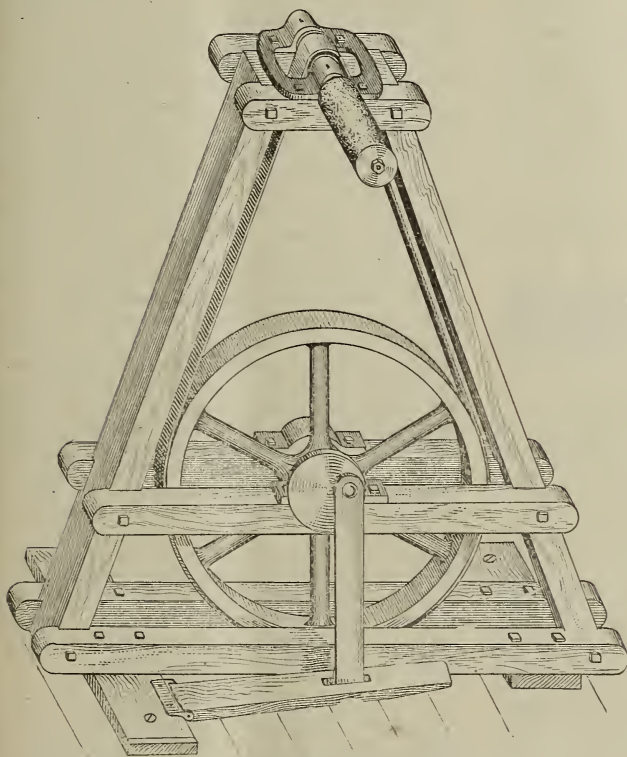
By selling it at home as much as possible, instead of sending so much of it to our large cities, we can do this. If we sell at home we can generally get our shipping-crates back, save commission and railroad expenses, so we can afford to bother a little more by selling in smaller quantities. Bee-keepers have a good deal to say about its cheapness; and yet when compared with almost all other foods we get as good a price for it as any thing else, taking one year with another and the amount of time it takes to produce a pound of honey.

OCCUPATIONS BESIDES BEE-KEEPING.

No one should keep bees exclusive of other occupations, as it is with bee-keeping like all other farm products, failure or partial failure occasionally; and so much of the year would be left without a paying pursuit that we can not afford to be idle. We lay the blame upon the bees, when it is ourselves. So many neglect their bees in years when they fail to store honey that they nearly die; and when a honey crop does come they lose it all, then blame the bees. Bees do not require a great deal of care—not nearly so much as I used to think they needed; but there is certain work that must never be neglected, whether they store honey or not. Unless we count the time we put upon our bees we are apt to feel and think they take more time than they really do; and no one should engage in the work unless he has a love for it; neither should he if he is not willing to bear a sting or so sometimes. If the stings greatly swell upon him he has no business with bees. But people often make a great fuss about a sting when, if they would push ahead, it would be soon forgotten.

Again, I want to mention the present price of honey. At from 10 to 15 cts. it pays us well; even 8 to 10 cts. for comb would pay us better than most other farm products, counting time put on them.

I can take all the care that 150 hives of bees need, the number we had last year, excepting putting hives in cellar and taking out, and carrying the honey from the hives to the house, easier than I can do the general housework and sewing for myself and husband the year round; and I would not neglect the bees in any particular, either. So I do think bee-keeping particularly adapted to woman's work. But let her work at it the year round, just as she does her housework. In the fall and winter let her make her sections up, and get them all ready for the hives; market the honey, but don't rush and worry and fuss about the sales, but work it off from time to time. Be always at it. If there is any thing that needs to be



THE ASPINWALL SECTION-CLEANER. SEE EDITORIAL.

done, just as we always and every day have housework to look after, do it. There has never been a year yet since we kept bees but we could have sold much more honey if we had had it, at fair and remunerative prices. I think we have never had more than one or two entire failures of a honey crop. I nearly always have had enough for them to live on if we took none from them. Such years as they failed to fill up for winter, the surplus in spring would more than pay for winter feeding.

People are usually behind time with their bees, judging from how most of our neighbors do. Three of our neighbors came to us for sections after our honey crop was half over. Of course, their bees had the swarming fever,

and no wonder they got but little honey. If they would take a bee-paper, and read up how to care for their bees they would make each year many times over enough to pay for the paper, and have some pay for their work. Work done too late on bees is like every thing else—a failure.

Roseville, Ill., Dec. 13.

USE OF SHORT TERMS.

A Correction.

BY S. T. PETTIT.

I have just read Mr. Gemmill's letter and your remarks on page 13. Speaking of dividers, you say, "I have since seen a description of these same followers, and find that the spaces between the slats was $\frac{5}{16}$ inch." That surprised me. I knew better, but for all that I went out to the honey-house and got an armful of these same dividers and measured the spaces. I would not have told you and the public that these spaces were $\frac{1}{4}$ inch if they were $\frac{5}{16}$ inch. To-day I send you four of these same dividers. Please measure them for yourself. You will see that they have been used by the embryo burr-combs stuck in them. Now, the dividers I used this year with $\frac{3}{8}$ -inch holes and $\frac{1}{4}$ -inch bee space next the super-wall were free from burr-combs, and also not stuck to the combs, as you may see some of these were. Of course, if they be put in a d-y warm room for some time the slats will shrink and thus enlarge the spaces.

May I request that we all use the term divider when referring to that implement, instead of perforated follower, for the following reasons? First, we should save "the wear and tear" of that long expletive word "perforated." Take, for example, Mr. Gemmill's letter and your reply. In these that long word "perforated" is un-

necessarily used six times.

Second, the name I gave it, for convenience' sake, after a good deal of thinking, is both expressive and explicative, *as it divides the extra spaces at the sides of the supers into two bee-spaces, and holds them there for the use of the bees.* Please consider that.

Third, it is a new implement; and, although it often takes the place of the follower, it is devised for and performs a new and quite different function, as we all know, I presume.

Fourth, in future as well as at present, both followers and dividers will be needed and used. You very properly advise the use of a thin wide piece behind the divider when necessary. Now, that outside piece is a follower—two dis-

tinct implements—and it will simplify things for all time to come to give to each its own appropriate name.

By this time, doubtless, most of your readers and many thousands more know what is meant by the term. S. T. PETTIT.

Belmont, Ont., Can., Jan. 6.

[The dividers that you sent here, friend Pettit, had their slats spaced about $\frac{1}{4}$ inch plump; but one thing I did not observe before is, they (the slats) were quite narrow, only $\frac{3}{8}$ inch—much narrower than those we use. I am not surprised that you had trouble with such narrow slats. I can not help feeling that, with wider ones, and close spacing, we shall be able to secure almost if not quite as good results as will your divider having holes in it. Yes, I am with you exactly in believing that we should have short terms, and that is why I proposed "fence" for "double-cleated separator;" but the reason I used the term "perforated divider" in the footnote in question was to distinguish it from the other divider made of slats. Too much brevity in some instances might lead to confusion.—ED.]



PLANTING FOR HONEY.

Question.—What is the best kind of tree to plant for bees? I am thinking of planting quite a large number this spring, if I can find out what will be best.

Answer.—The matter depends very largely on where the person lives who wishes to plant trees for honey. In all northern localities there is no tree that gives as great a yield of honey as the linden (or basswood, as it is more familiarly known); and were I north of latitude forty, that would be the tree I would plant, were I to plant any exclusively for honey. This tree is also very valuable for lumber; but unless planted too closely to do the best for honey, lumber of little account could be gotten from it on account of its growing so low and branching.

For fruit and honey combined, there is probably nothing better than the apple. Some years, when the weather is just right during its blossoming, it will yield honey nearly if not quite equal to basswood as to quantity, and in quality it is second only to white clover and basswood, if allowed to stay on the hive for a month or two, or if kept in a warm dry room for two or three months till thoroughly thickened and ripened. Then the apple blossoms at a time when a little stimulation in the shape of nectar from the fields is of the greatest value to the apiarist in populating his hives with brood, which will arrive on the stage of action just in time to take advantage of the honey-flow from white clover and basswood, which makes the honey which does come from it of double value. So if I were

to plant trees for honey I would include the apple as one of those trees, as it possesses the advantages of giving a good honey, giving said honey just at a time when it is of the greatest benefit to the apiarist, and gives, in addition, a kind of fruit that is desired by everybody to eat out of the hand, and for cooking purposes, and which always commands a ready price in any market of the world.

Then I would plant of basswood largely here at the north; and if I lived so far south that basswood would not thrive, nor apple either, then, from what correspondence I have had, I would plant the black locust or sourwood, as I understand that each of these gives good yields of honey in most of the States south of latitude forty. But, to be candid, I am not sure that I would plant any of the trees very largely for honey, having that as the main object, unless I were looking forward to generations yet unborn, for there is little use of setting out any tree with the expectation of gaining any immediate benefit; and if set out for those who are to come after, in all probability the place would change occupants, or the occupants conclude that the land could be occupied more profitably with something else, when, in either case, our labor in planting would have been mostly in vain. It takes a long time for any tree to grow to where it will yield honey of any great amount, as I well know; for when I moved where I am now located, I set out both apple-trees and basswood; and although that was twenty-two years ago, the bees have done very little on them yet, as compared with trees of more advanced age. Father set some basswood-trees in the open field thirty years ago, and on those the bees find sufficient work to make quite a good business at it, but nothing on these equal to a tree that I helped him set out near the old home where I was raised, forty odd years ago. From what I know, I should say it takes at least fifty years from the time of planting for a basswood-tree to yield its maximum flow of honey, and basswood is one of the most rapid-growing trees within my knowledge.

HONEY-PLANTS FOR BEES.

Question.—What seed is best to sow next spring for honey-plants for bees?

Answer.—White clover, alsike clover, buckwheat, melilot (or sweet clover), rape, mustard, pleurisy-root, spider-plant, Rocky Mountain bee-plant, Chapman honey-plant, golden honey-plant, etc., in about the order named; but with the exception of the first six, I do not think I would sow any of them, only by way of experiment or as a source of amusement; for I do not think it can be made to pay to occupy good land with any kind of plant that gives nothing of value except honey, because it takes acres of any kind of plants for the bees to gather enough nectar to store any surplus from. It may pay to sow any of these in waste places, as they would take the place of plants which were worse than useless, through the burrs and noxious weeds they produce. Neither would I plant rape and mustard, except where there was a call for the seed which would be sufficient to pay for its

cultivation, allowing the bees to come in with their part as so much profit. As to the sweet clover, with me I have failed to get it to grow except on sandy or gravelly soil, sow as much of it as I would; and as the most of our waste ground is of this nature, I think considerable of it, as it will take possession of these places and hold it from the more noxious weeds which are sure to grow on soils not occupied by something better. Just why sweet clover has ever been classed as a weed I can not see, for here in York State it is far more easy to kill than any of the other kinds of clovers, none of it ever being seen in cultivated fields, while white and alsike clover persist in growing in fields and gardens, with a tenacity which is often very provoking, especially in beds of strawberries. The two clovers that head the list, and buckwheat, are familiar to all, and are sown and grown by most farmers in localities where they will thrive. Buckwheat, in most localities, is a very paying crop for the grain it yields; while the honey from it, though disliked by many on account of its dark color and pungent taste, finds a sale in market at remunerative prices, considering that it comes at a time of year when the bees are all built up strong of themselves, so that there is no need of the stimulative feeding and coaxing which is often required to get them in condition for a honey-harvest coming earlier in the season. White clover, after once being sown, propagates itself, and is valuable in pasture land and for hay, while as a honey-plant, giving the finest quality of honey, it is second to none in the world. Alsike clover does not hold to the soil as well as the white; but as it is more valuable for hay than the white variety, it is so desired that nearly all farmers sow it now, and the bee comes in for her share, wherever sown. With us, the honey from alsike clover borders on the pink as to color, hence is not sought after on account of its snowy whiteness, as is that from white clover. But in flavor I consider it fully equal to the white.



TRANS-MISSISSIPPI NOTES.

Our bee-keepers and supply-dealers who contemplate taking space in the bureau of bee-industries, at the Trans-Mississippi and International Exposition should not forget the advertising facilities offered them through making displays in this bureau.

In addition to the space accorded exhibitors, the Exposition will furnish each exhibitor ordinary light, ordinary guards, twenty words each in 100,000 official catalogs free of charge, and all expense pertaining to the jury of awards. These items alone will cover every cent received by the management for space received by exhibitors.

Dr. Emerson T. Abbott, of Missouri, com-

missioner, has been appointed one of a committee of his commission on horticulture, etc. We may reasonably expect some good displays from that State.

Mr. Aiken and Secretary Rauchfuss, of Colorado, are making a determined effort to have that State properly represented in the bureau of bee-industries. Mr. Pollock, Secretary of the Wisconsin Commission, visited Omaha this week, and we shall hear from Wisconsin soon. E. WHITCOMB.

Friend, Neb., Jan. 12.

HIVING SWARMS ON POLES.

I notice in the remarks of Dr. Miller, in *Stray Straws*, in *GLEANINGS*, page 876, in regard to the ventilation of hives, by N. Genn, in which he says, "No entrance in hive or board. In spring he puts a loose lath under each side, and one under the back end. When warmer he takes out the back lath," etc. Now, what I want to know is, what he does with his hives during the winter. If there is no entrance, in what way do the bees clean the hives? or must they be wintered in the cellar without bottom-board.

Riner, O.

J. H. CLEVINGER.

[Dr. Miller uses a reversible bottom-board a good deal like the Danzenbaker that has been recently illustrated in these columns. One side of the bottom-board permits of the ordinary bee-space, and the other allows a two-inch space under the frame. In winter, if I am correct, the doctor sets his hives in the cellar with the deep space of the bottom-board next to the frames. To keep out mice, coarse-mesh wire cloth is set before the entrance. The mesh is coarse enough so that the bees can readily pass; but big bugs and animals are kept out.—ED.]

TOO MUCH SWARMING; WHAT IS THE REMEDY?

I am in the fix of the bee-man you mention, whose bees you went to see while you were at the bee congress. I get more swarms than honey. Can you help me out? I have enough hives of bees until I see how they are going to pan out in honey, as my location may not be a good honey section, though it appears to me it should be. It is high time they were paying their way, as this is the third year since I started with them; and, though I get about two swarms from each hive a season, this is the first year I have got even enough to eat; and this year I got only about 10 lbs. per hive, counting new hives and all. Some of the hives would make about 50 lbs., and some none. Is there no better way of preventing swarming than destroying the queen-cells every nine days? How would it do to place a queen-bee guard in the mouth of the hive when catching a swarm, and so find the queen, and kill her, and return the bees to the old hive? Or will they go in and leave her on the outside? It is very difficult for me to find her always, in a swarm. Or how would it do to save all swarms, and in the fall of the year consolidate and save the hives of

comb and honey to catch next season's swarms in, thus giving them the advantage that an old hive would have. JOHN CAMM.

Lynchburg, Va., Dec. 21.

[Without seeing your hives and knowing your methods of work, it would be difficult to tell exactly where the trouble lies. Perhaps your brood-nest is small for your locality; and it is possible that you do not give them room soon enough. I would put the sections on a little earlier than you really think you need to have them on (see Mrs. Axtell's article in this issue). I would also enlarge the entrance just at the approach of the honey-flow. This can most easily be done by placing four blocks, $\frac{7}{8}$ inch thick, under the four corners of the hive, and resting on the four corners of the bottom-board. Don't let the bees get into the fashion of clustering out, because if they once get into the habit of it they are likely to keep it up till they swarm. If these methods already given fail to reduce swarming, then it may be you have a strain of bees that are rather more given to that habit than they ought to be. In this case it will be well to change queens; and while in this connection you can in any case do something to reduce swarming by keeping nothing but young queens in the hive—certainly those not over two years old.—ED.]

MRS. HARRISON AGAIN IN FLORIDA; JAPONICAS; SOUTHERN CEMETERIES; BEES VISITING CUT FLOWERS.

While waiting at Mobile, Ala., for a steamer to cross the Gulf of Mexico, to my winter home, St. Andrews Bay, Fla., I visited Magnolia Cemetery, in company with a traveling companion, Dec. 29th. The sun was shining, and the thermometer was at 55 degrees when we took an electric car. One of the inducements to visit this cemetery was the many varieties of japonicas in bloom; sweet-scented violets, narcissus, sweet olives, and roses of various hues; japonicas in various hues of red, pink, and white of delicate purity. A lady at the cemetery told us that some large japonicas, that had been trained to a single stem, and were more than one foot in diameter at the base, had been brought from France by her grandfather, many years ago. His remains repose in their shade, and the beautiful blossoms pay tribute to his memory.

I sat down to rest upon the stone coping, near the head of a grave covered with Christmas decorations. Near me was a wreath of japonica, with variegated bloom, pink and white, in stripes running from the center to the circumference. A bee was working upon this wreath, and it was well loaded with pollen. A number of bees were working upon a bouquet in a glass vessel. This is the first time I ever noticed bees working upon cut flowers.

There is a legend that, when the queen of Sheba visited king Solomon, she placed artificial flowers and natural ones at a distance from him, and requested him to inform her which were the natural ones. Solomon ordered a servant to open a window, and bees came in and flew to the natural ones.

I noticed several things in this cemetery, new to me. A tent was erected over an open grave, and I was told that this was the custom during interments, and it remained there to protect the floral offerings from sun and rain for one week. Other graves had light framework, covered with awning, to protect bouquets placed there. Headstones named the disease, the cause of death, such as consumption, yellow fever, or killed in battle.

One corner of this cemetery is consecrated to the burial of Confederate soldiers, and is kept in order by the State of Alabama. The graves are in rows, with headstones in gray, inscribed with name, or "Unknown." A large monument, with carved soldier on top, with knapsack and gun, is a silent sentinel over the remains of thousands.

In another part of this cemetery the United States government has inclosed with a brick wall the graves of those who fell in defense of the Union, and marked their resting-place with white marble headstones. A large flag-staff is in the center of the grounds, and a commodious brick house within the inclosure, where the keeper resides.

Mobile, Ala., Dec. 30. MRS. L. HARRISON.

THE FENCE AND PLAIN SECTION.

I too am very much interested in the new separator and sections, if you so call them new; your one piece section $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ thick is new; but the fence was made ten years ago.

The fence I first made was $3\frac{1}{2}$ inches wide, 3 slats in it, $\frac{1}{4}$ inch between slats. This I found was too narrow for the fence, and the space $\frac{1}{4}$ inch between slats too wide; for large colonies would build the combs at top and bottom wider than the section. The $3\frac{1}{2}$ fence makes $\frac{1}{4}$ inch to the top and bottom of a $4\frac{1}{4} \times 4\frac{1}{4}$ section, and this is too much. I make mine now $3\frac{3}{4}$ wide, 4 slats, slats $\frac{1}{8}$ apart. The $3\frac{3}{4}$ fence gives $\frac{1}{8}$ at top and bottom of $4\frac{1}{4}$ section; the cleats $\frac{1}{2} \times \frac{1}{4}$; end cleats, $\frac{1}{2} \times \frac{3}{8}$. I think $\frac{3}{8}$ thick would be better. We in Jefferson are glad to know that you can furnish this style. W. S. ANDREWS.

Jefferson, O., Dec. 6.

[Yes, the fence is at least ten years old, and I have repeatedly said so in these columns. The fence that you have adopted, if I understand correctly, is about the sort of fence that we are putting out on the market for this season. If this is true, your own experience, friend A., shows that we have struck pretty nearly the right construction.—ED.]

ANOTHER BLIZZARD IN FLORIDA.

This section is again sorely stricken. We had frosts—in fact, ice—for four successive nights; but only one did us damage—the one of the 3d inst. Our hopes here on the St. Lucie River, for a crop of pineapples this season, are practically gone. How much damage is done to the plants themselves will not be accurately known for some weeks; but we hope the most of them are alive.

I have heard but little or no definite news from the orange localities, but hope from what

we do hear that little or no material damage has been done to the trees. It is as yet impossible to tell how much if any damage has been done the bee-interests of the East Coast. I hardly think they are seriously injured, but certainly they have not been helped any.

O. O. POPPLETON.

Stuart, Florida, Jan. 6.

[Since the above was received we have had information from other points, to the effect that the orange-trees are damaged but little unless it is in a few localities. Vegetables for the northern markets are in many cases damaged badly, and the strawberry crop will have a setback of several weeks; but if no more severe weather occurs the result will not be very much worse than what happens from late frosts more or less most winters.—ED.]

HOFFMAN FRAMES SUPERIOR TO STAPLED FRAMES

We have used staples, nails, bent tin, and iron-blocks for spacing frames sidewise, but they can never take the place of any arrangement like the Hoffman frames, as all these (the staples, etc.), permit the bottom to vary in their spacing.

Why not call the "no-bee-way" sections "fence sections"? I admit that the former name explains at once what these sections are, but we all shall know what a "fence section" is, as they must be used with a fence.

E. KRETCHMER.

Red Oak, Iowa, Dec. 11, 1897.

[Fence section would be a good name; but the term "plain section" has been used for over a year, and is a good descriptive name. Why change now?—ED.]



I. M., Can.—We are still using a few of the original A. I. Root two-story chaff hives; but they are fast being displaced by the more convenient single-story double-walled hive. These latter give good results in wintering, and can be handled in every way the same as a single-walled hive.

W. E. B., Tex.—I do not really understand what you mean by robbing colonies at this time of the year. If you have a surplus of stores, and you desire to take away some of them, I should think you could do so in your locality, at least, without detriment; but ordinarily it is bad policy to meddle with colonies during winter—worse yet, to take away stores.

A. C., Ill.—In regard to the item on page 769 of GLEANINGS, in reference to the Danzenbaker sections, the first sections that Mr. Danzenbaker sent out last season had bee-ways on both sides; but those that were sent out a little later had bee ways on only one side, the same as those described in GLEANINGS; but in either case the bee-ways were differently

constructed from those in the ordinary section, as you may know from the sections which you have.

J. E. M., Mich.—I can not understand why your bees should tear down your foundation, unless you left the supers on the hives after the honey-flow. They will do this sometimes. It is possible that you used extra-thin foundation when it would have been better to use the ordinary thin. The extra thin will do very nicely, providing the supers are not put on too soon.

G. E. W., N. Y.—If there is any place in the world where bees and fruit can be made to do well it is in Central New York, especially along the line of one of those beautiful lakes. Whether you can make it pay will depend upon your skill and adaptation to the business. It is not always wise to depend upon bees alone, nor, for that matter, fruit alone. The two together might do, however, very well; but I would not advise you to sacrifice your present interests entirely. If you can somehow arrange to try the new venture for one season you will be in a better position to know what you can do in the future.

R. G. H., Wash.—If I am correct the only way to get the pollen out of combs is to give the combs to the bees in the spring, and let them dig it out. You can make an attempt at it by soaking the combs in warm water a few hours, then putting them into the extractor. By this means you will throw out some of the bee-bread.

The albinos are nothing more nor less than a strain of Italians that have bright silvery fuzz bands between the bands of gold; but as they are only bees to please the eye, and were thought by some to be short-lived, the demand kept waning till it ceased. I do not know where they can now be obtained.

The red-clover strain of Italians was reared by selection, the same as albinos; but in this case it was bees for business and not for beauty. You can obtain these bees of J. P. Moore, Pendleton, Ky., one of our old advertisers.

R. C. H., Ohio.—As to which frame is better—the staple-spaced thick-top or the regular Hoffman—will depend upon the locality, and whether propolis is deposited very freely in your locality or not. If it is, then I would recommend the frame having staples as spacers; if not, you would do well to select the Hoffman.

If you have set aside combs filled with stores, these may be given along in the spring when colonies run short; but if a hive has from 20 to 25 pounds, ordinarily it will not need these extra combs.

I would transfer the combs that are out of the hive whenever it can be done most conveniently. As to the combs that are already in the hives, these you can transfer along next spring, and I would make a job of it by doing it all at once rather than to do part at one time and part at another.

J. D., Mich.—Bees are sometimes trapped and poisoned by malicious persons—fruit-men who imagine that bees are detrimental to fruit-

growing. Some instances have been known where they killed the bees by setting out syrup poisoned with Paris green, or some other equally poisonous ingredient; but such a practice is against the law, and any person so poisoning bees must take the consequences.

The space between the bottom edge of the comb and the bottom-bar is usually left by the bees. The only way that I know of to get the bees to fill this up is to turn the hive bottom upward, including the whole set of frames, during the honey-flow, for a day or two. Of course, the frames will have to be secured in position during this time. I would not fuss to cut strips of comb to put in this space.

F. M., Wis.—It is impossible to give a definite reason why your bees should swarm, without knowing more of the conditions. An entrance that is too small, or a hive of limited capacity, especially if it stands out in the sun, might induce the extra swarming. Next summer, try the experiment of raising the hive off the bottom and putting four blocks under, one at each corner, $\frac{7}{8}$ inch thick; then be sure the bees have plenty of room in the super. When running for extracted honey, give the bees plenty of empty combs. For full particulars in regard to the problem of swarming, see our A B C of Bee Culture, and also page 30 of catalog. There are some brief hints in the catalog, especially on page 33.

J. M. R., Wis.—You ask for information as to the utility of compressed air produced by wind or water power to run a dynamo, and whether it would be cheaper than an immense lot of water as a motive power. I do not think it would pay you to fuss with either one of these for the purpose named. It will be far cheaper, certainly in the first cost, to purchase a little steam-engine. The coal consumption would not begin to cost what the interest would be on the investment for a large tank of water or compressed-air apparatus. What is cheaper to maintain and operate, although the first cost is somewhat more, is a gasoline-engine. But small dynamos and small engines, can not compare in efficiency and economy with a large dynamo and engine. A small dynamo, however, will work economically in a shop or mill where there is power for other purposes. In this case the dynamo is usually belted from some line-shaft or countershaft.

A. S., N. Y.—You ask what I think of the Aspinwall super, as shown in the last *Review*. There are some good things about it, but, like yourself, I could hardly like the tin separators. It would be more expensive, and then it seems to me it does not offer some of the advantages afforded by the fences. Then, too, I do not quite like a super that is made up of 4 pieces held together by means of rods or bolts. Such an arrangement is expensive to start on, and awkward and unwieldy to pack away in a wagon or on shelves when full of sections. If I wanted one loose side, I should much prefer, I think, the super illustrated in November 15th *GLEANINGS*, that is used by Miles Norton.

With regard to the bottom-board, the ordi-

nary run of them are a little short, it is true. When they are used in connection with the hive-stand, illustrated in January 15th *GLEANINGS*, in "Trade Notes," I think the difficulty you refer to is wholly obviated. In fact, the hive-stand in question not only raises the hive up to a convenient working distance, but in effect lengthens out the bottom-board.

With regard to the thumb-screws, we can furnish them with any of our supers; in fact, we supply them regularly with the Hilton T super.

If I were to choose a locality for bees I would either select a locality in a farming or fruit country, near one of those beautiful lakes in York State, or I would jump clear over into California or to Colorado, the central portion. Southern California, Eastern Nebraska, Southern Wisconsin, Central and Eastern New York, in my judgment, offer the best field for bees. I am not sure that you could better your locality. The places that I visited last summer were considerably overstocked, and I don't suppose you would find any of them very suitable.

J. W. K., Kan.—Referring to yours of Dec. 30, I would say that we had not contemplated changing the directions for introducing queens, that appear on the queen-cage covers. You question the point whether it is wise to have a colony queenless a day or so before the new queen is introduced, and think you secure better results by removing the old queen, and caging the new one at one and the same operation. This may work in a good many instances; but my experience leads me to believe that it is better for a colony to *feel* its own queenlessness; and in order to have a knowledge of this condition, the hive must be queenless for at least 24 hours. On the other hand, if a new queen is given to them at the same time the old one is taken away, they would, in some instances at least, pounce on to the wire cloth, and crowd over it so tightly in their efforts to get at the queen, as to be apt to smother her. If, however, they positively knew that they were queenless, their behavior toward the new mother would be much more mild. No, I think the directions as given on the queen-cage cover are about as nearly right as they can be. I originally wrote them myself, and I now see that all or nearly all of the queen-breeders have adopted them for their own queen-cages, which I regard as evidence that the directions are satisfactory to them.

You think it would be an improvement if our division-boards were made longer so as to fit snugly, and be bee-tight except at the bottom. The best answer I can make is, that if you try it once you will become disgusted with it. I tried it quite thoroughly a few years ago, and I finally was very glad to yank them out of all the hives and put in their stead division-boards with a bee-space all around, the same as brood-frames. Mr. Julius Hoffman, of Hoffman-frame fame, used to tack strips of rubber on the ends of the division-boards, the rubber abutting up against the ends of the hive. This worked very nicely, for the rubber was yielding, and the bees could never make it fast with propolis.



EIGHT extra pages this time. We have so much good matter on hand that we are obliged to give this extra space.

THE subscription-clerk tells me that new subscribers are joining our ranks in a way they have not done for years. Let the good work go on. The more subscribers, the better we can afford to make the journal.

WHEN the idea of grading honey by means of a photograph was first advanced, friend Hutchinson thought it too fanciful to be even considered; but the more he has thought of it, the more practical it seemed; and then he adds, "I have not yet forgotten the derisive manner in which I laughed when I first saw and heard of a bee-escape." Neither have I forgotten how I laughed in the same derisive way at Danzenbaker's fence, or, as he then called it, cleated separator. Why! to be obliged to fuss with so many little sticks, slats, and nails was simply *awful*; and in my heart I actually pitied some of friend Danzenbaker's (poor deluded) customers. While I hold the same opinion yet in regard to the fussy nailing, machinery and glue have obviated all this; and his cleated separators, or fences, are not the "awful things" they once were.

CONSOLIDATING THE OLD AND THE NEW UNION.

It seems as if this question were coming up, and bound to come up. Here is a copy of a letter sent to General Manager Secor, which will explain itself:

Hon. Eugene Secor:—At the meeting of the California Bee-keepers' Association on the 11th inst., the subject of the old and the new Bee-keepers' Union was taken up for discussion, which resulted in the following resolutions:

Resolved, That the new Union should absorb the old. Forty-three in favor of, no opposition.

Resolved, That the Secretary be instructed to inform the respective managers of the Union of this action. I therefore transmit the same to you with the inclosed \$3.00, and the names of the following persons for membership.

Hoping that the success of the new Union is only a question of a strengthening in the way of funds,

I remain fraternally yours, J. H. MARTIN.

I feel sure that this consolidation can be effected in time. The action taken by the California bee-keepers is in the right direction. If similar resolutions are passed by other organizations it will do much toward bringing about the desired result. But of course the amalgamation, if effected at all, would have to be sanctioned by the members of both organizations, otherwise it will be indefinitely postponed.

In case amalgamation is effected, the thought has occurred to me that there might be two branches of work—one to take the defense line, managed by Mr. Newman, and the other take up adulteration, managed by Mr. Secor. I do not know that there could be

two General Managers; but there could be two officers, and those two officers might be in two different localities.

THE REV. DR. TALMAGE AND THE BEES.

LAST Sunday, Jan. 23, Rev. Dr. Talmage preached a sermon on honey, taking as his text I. Sam. 14:43, and from it he draws a good many valuable lessons; but it is evident that, in looking up the subject of the architecture of the honey comb, he has in his library some books that have borrowed from bee-lore of a century ago, because I hardly think that Dr. Talmage would have manufactured the following out of whole cloth. In telling how the bees make honey-comb he says:

"These winged toilers first make eight strips of wax; and with their antennæ, which are to them hammer and chisel and square and plumb-line, they fashion them for use. Two and two these workers shape the wall. If an accident happens, they put up buttresses of extra beams to remedy the damage."

Then a little further on, in telling what causes bees to swarm, he says:

"The mother-bee starts for a new home; and because of this the other bees of the hive get into an excitement, which raises the heat of the hive some four degrees, and they must die unless they leave their old apartment, and they follow the mother-bee, and alight on a branch of a tree, and cling to each other, and hold on until a committee of two or three bees has explored the region and found a hole in a tree or rock not far off from a stream of water."

I do not think Dr. Talmage would knowingly utter such nonsense; and by a careful reading of the sermon I do not find that either one of the quotations above is at all necessary for the elucidation of some of the grand truths he brings out in the line of touching forbidden sweets. That the good doctor may not fall into a similar error again, we are sending him, complimentary, a copy of our *A B C of Bee Culture*. We especially commend to his attention the article on "Honey-comb," and also the other article, on "Swarming."

A MACHINE FOR CLEANING SECTIONS; THE ASPINWALL SUPER AND PLAIN SECTION.

IN the *Bee-keepers' Review* for December appears a valuable article from L. A. Aspinwall, of Jackson, Mich., on the subject of plain sections. Mr. A. is one of the pioneers in the use of boxes without bee-ways; and having tested them most thoroughly he is in position to know something of their value. He enumerates, among their advantages, some of those I have already mentioned in the various issues, among which he says that the "plain section also makes a much nicer package, and the wrapping-paper is less liable to break while being tied. . . . That the plain section also admits of the most perfect and rapid work in cleaning by machinery;" and that "not only every vestige of propolis is removed, but also the stains;" and then he adds:

The transcendent point of excellence, however, is the beauty and attractiveness of the finished product in such sections when filled between properly constructed separators and super sides. My honey has

thus far commanded the highest price, and is sold exclusively by the best and most reliable grocers here in Jackson—one house having already spoken for the sale of it another season to the exclusion of all others, notwithstanding honey has been sold by fairer bee-keepers at ruinous prices; but, being produced without separators the sections are more or less bulged, and lack the snowy whiteness which characterizes clover honey when removed as soon as well filled and sealed. Of course, the sections being "machine cleaned" has added much to the attractiveness of my honey.

The separator that Mr. Aspinwall uses is made of tin; and immediately opposite the uprights of the sections oblong transverse slots are cut, reaching, I should say, within half an inch of each edge of the separator. On this edge not cut out, $\frac{1}{4}$ -inch stops are fastened, the purpose of which is to separate the separator a bee-space from the sections. With this device Mr. Aspinwall secures in effect sections open all round. The result is that his comb honey, according to Mr. Soper, is almost entirely free from corner holes—a matter of great importance.

The super consists of two sides that are clamped against the rows of sections, and the sections and separators are held in position by means of rods and bolts.

Referring to the section-cleaner, an illustration of which appears in another column by the courtesy of the *Bee-keepers' Review*, Mr. Aspinwall says:

I consider it indispensable in these days of close competition. The work is perfect as regards the section edges, which are cleaned instantly, and made to appear new, adding very much to the appearance of the honey. The surfaces are a little slower when considerably coated with propolis, otherwise a single movement across the roll is sufficient to make them white and clean. Although no difficulty has been experienced in holding the sections, I shall construct a rest which possibly, for novices, will be security against any breakage of the sections or comb. Thus far I have had no breakage whatever. The accompanying illustration furnishes a general view of its construction. It is secured to the floor by screws.

No detailed description is given beyond what is shown in the cut. Although I do not know positively, I am rather of the opinion that the cylinder projecting out beyond the machine, and on which the sections are placed to be cleaned, is covered with sandpaper. The wonder with me is that this paper does not become filled with propolis so as to be practically inoperative. However, it evidently does its work.

Mr. Aspinwall closes his interesting article by stating that "the machine is easily worked, and its capacity is about twice that of hand work. The increasing of its capacity is yet to be developed." I am a little surprised that it only doubles hand work; but even then it is worth all it costs; but with most bee-keepers I am inclined to believe it would triple and quadruple ordinary hand scraping; and the results in any case would be far superior.

In our next issue I hope to show you a view of the Golden section-cleaner—a machine that makes use of somewhat the same principle.

As I look at the cut of the Aspinwall machine I can not help feeling that the day for hand scraping of sections will soon go—no more gashing into the nice honey with the knife or with awkward fingers, and no more bad unsightly stains as used to be present in the bee-ways of the old-style sections. To my

mind, the future market will demand a box entirely clear of stain and propolis. The world does move, even in beedom.

WHAT DR. MILLER THINKS OF MACHINE CLEANERS.

After writing the foregoing, a letter from Dr. Miller in regard to machine section-cleaners is at hand. Referring to the Golden machine as illustrated in the *Amer. Bee Journal*, which, by the way, represents more nearly his idea of what the machine should be, he says: "I suspect that a section-cleaner is one of the things bound to come, and there won't be old sewing-machines enough to go round." Then referring to the Aspinwall machine which we illustrated, he thinks it ought to have a sort of steady rest. He writes:

Try to sharpen a pocket-knife by holding it on a grindstone with one hand. It jiggles all over. Now have some kind of rest to hold it steady. That's what my improvement's aiming at. With Aspinwall's arrangement you hold the weight of the section with nothing to help hold it level. With my arrangement the weight of the section is not held by the hand, but rests on a horizontal surface, and that helps hold it steady. C. C. MILLER.

I have a machine (in my head) that embodies all the good points of all, and (in my head) it will clean faster and better than either of the ones above mentioned. It makes use of an upright revolving disk with a flat surface for the sandpaper. The cost will be small—much less than that of either of the machines referred to.

A PURE-FOOD CONGRESS TO BE HELD IN WASHINGTON; THE UNITED STATES BEE-KEEPERS' UNION SHOULD BE REPRESENTED.

A CALL has been issued to all the friends of pure food to meet in Washington on Wednesday, March 2d next. The object of this congress will be to discuss the need of legislation, and how best to secure it. From the call that has been made I make the following extract:

The question of the character of the food, drink, and drugs consumed by a people is unquestionably one of the most important that can be discussed by them. Adulteration, misbranding, sophistication, substitution, and imitation undoubtedly exist to an alarming extent, to the detriment of health, legitimate business, and sound morals, and it becomes needful to secure legislation that will check this growing evil and permit an honest man to do an honest business.

In regard to the apportionment of delegates the Governor of each State and Territory is requested to appoint ten—four agriculturists, two pharmacists, one wholesale grocer, one retail grocer, one food manufacturer, one proprietary manufacturer. The Secretary of Agriculture is to appoint five, and the Commissioner of Internal Revenue five; the Surgeon-general of the Army five; the Surgeon-general of the Navy five; the various boards of health from the various cities will also be represented, as well as the boards of trade and chambers of commerce. The agricultural associations will also have their delegates. The National Grange is to have five; each State Grange two, and so on down till we get to the National Bee-keepers' Association, which is to be allowed three, and each State bee-keepers' association one.

This will certainly be a very important meeting; and if it is thoroughly represented, much

good can and should be done. I make the suggestion or recommendation, if you please, to the Board of Directors of the U. S. B. K. U., that that body send its General Manager, Hon. Eugene Secor, or its Secretary, Dr. A. B. Mason, to this congress, for there will be reduced railroad rates. It might be wise to invite one or two others to be present with him, also members of the Association, but who should be in the immediate vicinity of Washington, to save railroad fare. I am now thinking of our friend Danzenbaker, who is in the city, and no man is more interested in pure food than he. Perhaps apicultural experimenter C. H. Lake would be another. The new Union is already preparing for work; and it seems to me that, meeting with and co-operating in this way with the other friends of pure food, it will be one of the first moves for the new Union, and should by all means be recommended by the Board. In a letter recently received it appears that the General Manager is looking now toward the adulteration question.

THE LANGSTROTH-MONUMENT FUND; LOVING OUR NEIGHBOR BETTER THAN OURSELVES.

WE have already made several appeals for funds from bee keepers, for the erection of a monument or a tombstone for father Langstroth. Money has been coming in in little amounts, so that now the aggregate is something like \$60.00, including the amount secured by the *American Bee Journal*. I had hoped that we might be able to raise \$100 easily. It seems to me we surely ought to make it \$75.00, and therefore hope that bee-keepers will send in what they think than can afford. Any amount from five cents up to a dollar will be received and credited to the Langstroth-monument fund. I do not expect to make another appeal, and hope, therefore, our readers will heed this our "last call." I am well aware that there are suffering Cubans and starving Armenians, and that calls for funds from mission fields were never more urgent than now. I would not ask for one penny for any one of these benevolences; but if you have a nickel, a quarter, a half-dollar, or a dollar, that you are going to spend for something you do not really need, let us have it for the monument fund. One of our workmen, a few moments ago, handed me a dollar.

"What is that for?" I asked.

"Why, that is to go to the fund that you are making up for the suffering Cubans."*

"Why," said I, "if all were doing as well in proportion as you are, the Cubans would have enough and to spare."

"Well," said he, "I know I really can not afford it; but I had taken the dollar to buy sugar with; but I concluded that my brother-man in Cuba needed the bare necessities more than I needed the sugar, and here is the dollar."

Now, friends, what a beautiful world this would be if every one were to show a similar spirit! and I might say in closing that we will receive money for the Cuban sufferers as well

as for the monument to the memory of father Langstroth.

STEALING THE OTHER MAN'S THUNDER.

WHEN a thing has pronounced merit, and there is a big demand for it, others are liable to copy it, or, if they can not copy it, make something like it, and give it nearly the same name. A case is in point in the matter of plated silverware. One Rogers made plated silver spoons, knives, and forks that earned for him an enviable reputation. Very soon, perhaps half a dozen other concerns adopted the same name, with a slight change. There are, I believe, Rogers Brothers, Rogers & Bro., Wm. Rogers Mfg. Co., etc., all making the same goods. The same has been true in regard to certain patent medicines. Just as soon as their proprietors have secured for them a big demand (whether they have merit or not) other firms begin making the same stuff, and calling it by *almost* the same name. The average person does not know exactly the name of the article; and if he sees a name that is almost like the original he jumps at the conclusion that it is the original.

Within a year or so, or since our "Weed new process" foundation was put on the market, various persons in this and other countries have advertised their own "new process;" and lately they are getting to call it "new process" and nothing else, the evident purpose being to borrow or steal the advertising prestige secured at an enormous cost. The fact of the matter is, the "Weed new process" is entirely different from any other so-called new-process foundation. All the other continuous-sheet-making machines employ the old dipping process; but the Weed machinery makes continuous sheets on an entirely different principle.

THE LATEST NEWS, JUST AS WE GO TO PRESS.

TO-MORROW, Feb. 1st, Blue Eyes leaves her home and starts out to make a home of her own with Mr. Arthur L. Boyden, formerly of Saline, Mich. At the same time, Miss Constance surrenders her place as a member of the A. I. Root Co., in favor of Mr. Boyden, who has been for several years the right-hand man of our business manager, Mr. J. T. Calvert. The young people will take a trip to the bridegroom's home in Michigan. As both are connected with the office more or less, they have deputized your humble servant, A. I. R., to take their wedding-trip for them while they remain at home (after a week's absence) and look after business in the office. Accordingly your humble servant expects to sail for the Bermuda Islands on the steamer Trinidad, sailing from New York at 10 o'clock, Feb. 9. Look out for notes of travel describing the way they grow Bermuda onions, potatoes, etc., for the New York markets. Bermuda is said to contain more than 100 miles of the best roads for wheeling, on the face of the earth. As these roads are all made of coral, as is nearly the whole of the island, for that matter, there is never either dust or mud. All the water goes down through the coral so quickly that you can start riding anywhere as soon as it stops raining.

* The A. I. Root Co. sent \$30 for the Cubans.



Behold how good and how pleasant it is for brethren to dwell together in unity.—PSALM 133:1.

Let us not weary in well doing; for in due season we shall reap if we faint not.—GAL. 6:9.

Thanks be to God who giveth us the victory through our Lord Jesus Christ.—1. COR. 15:57.

THE NATIONAL CONVENTION OF THE AMERICAN ANTI-SALOON LEAGUE.

This meeting took place on the 11th, 12th, and 13th of January, at the Park Auditorium, Columbus, O. Right over the stage, in plain view, in beautiful large letters, so that they could be easily read from any part of the room capable of seating six thousand people, were the words,

"THE SALOON MUST GO."

The Anti-saloon League originated in Ohio; but this was the third national convention, and those who took part were from all over the United States. Perhaps I may mention here that 18 States already have Anti-saloon League organizations, and other States are rapidly following.

When I first entered the room, Rev. Walter Brooks, D. D., of Washington, D. C., was speaking. His subject was "Neal Dow." Mr. Brooks is a colored man, and I should say, of pure African descent; but when I was not looking at the speaker it seemed almost impossible to realize that such splendid oratory—such beautiful, forcible language—was not spoken by some "doctor of divinity" of our own race. It was my privilege to have some private conversation with Dr. Brooks afterward. He is not only fully up with the times, but he is capable of giving intelligent advice on almost any point concerning government, morals, or law. There was something almost plaintive, and in some respects painful, to notice that a man of such scholarly attainments seemed, in some respects, obliged to exhibit a deference to every white man, no matter how far below him in intellect and scholarship the white person might be. When I was in Florida, and, in fact, all through the South, I could not help noting the meekness and humility that even educated blacks show toward white people. When you are riding a wheel, some people will courteously give you the right of way, and some will not; but a colored man or woman, under all circumstances, will, on meeting a white person, give the whole road or the whole walk—recognizing, as if by general and universal consent, that they are by nature born our inferiors and servants.

One of the prominent banners at the Anti-saloon meeting read—

"UNITY, PERSISTENCY, VICTORY;"

and this banner suggested the three texts at the head of this report.

The first thing that struck me forcibly was the unity in this convention. Mr. Brooks' color, as he stood before our people, or min-

gling in the crowd in a familiar way, counted for nothing. A man's politics or religion, if you happened to discover what these were, counted for nothing. Occasionally evidence of these things cropped out; but before long somebody was sure to remind us that the purpose of this national meeting was "unity." One good brother, of great eloquence and remarkable talent, urged that, in one of the resolutions, there should be a clause to the effect that we should all agree to vote for men in public office who are strictly and earnestly temperance men, and that under no circumstances should we vote for *any other*. Now, I am afraid a part of the good friends who read GLEANINGS will come down on me hot and heavy when I say that I felt sure this well-meaning brother would stir up discord; and for a little time there seemed to be danger of a little feeling among many of the prominent members; but when Mrs. Wittemyer arose and said that "we temperance workers of the nation have come here to work for unity, perhaps more than for any thing else," the troubled sea quieted down in an instant. At the risk of receiving some more unkind letters, permit your old friend A. I. Root to say that even *he* could not well pledge himself to vote *always* for real earnest temperance officers, and for no others. No one man has all good qualities; and a good many times in my life I have felt obliged to choose what I considered the better of two alternatives—sometimes the lesser of two evils. I should be *exceedingly* glad if able men, and men who are candidates, were always such temperance men as was Neal Dow, and that the world would unite in putting such men into office.

The next speaker was the Right Rev. John A. Watterson, Bishop of Columbus. Now, if it were not for that word "Unity" in our motto I presume there were quite a few who would also object to the way in which our national president, Rev. Howard H. Russell, introduced the bishop. He said in substance: "Dear friends, I am glad to introduce to you one whom I have learned to love since I have become more and more acquainted with him in the temperance work."

There we had a Congregational minister introducing a brother-minister of the Roman Catholic Church! Please remember, dear friends, that Mr. Russell did not, by this speech, indorse Catholicism as a whole; but he did indorse the good work that our Catholic brethren have been doing for the cause of temperance; and by so doing he has brought about a wider unity in the temperance work than we have ever had before. The bishop gave us an excellent temperance sermon. Perhaps it would be well to mention right here, that, later in the day, one of the best temperance addresses I ever heard in my life was given by Mrs. Leonora M. Lake, of St. Louis, Mo., entitled "The Saloon and the Home." Mrs. Lake is a Catholic mother, and a member of the W. C. T. U. She said in substance that she did not want to discuss theology in public, and that she had no desire to enter the realm of politics; but when the American saloon, or any thing else, is striking

such terrible blows at the home, she did feel called upon, in common with the mothers of America, to *protest* against the saloon; and in behalf of the home she felt willing to speak, even before public audiences. Many of our readers are perhaps not aware of the fact that our Catholic friends are very tenacious in their love of home. The divorces that disgrace the members of our various churches are almost unknown among the Catholics. I asked Howard Russell if he ever before heard of a woman speaking in public who was a Roman Catholic. I think he said he never had, and that this was an innovation on the customs of the past. Why, I felt as if I would have freely given a ten-dollar bill to have Mrs. Root listen to Mrs. Lake's plea for the sacredness and sanctity of the home, and for the boys of our land who are growing up, and going out, not only from Catholic homes but from every other home. I tell you, friends, when temperance workers from all denominations and from every political party begin to meet in harmony and real brotherhood, then we shall triumph.

Judge Pollock, of Fargo, N. D., gave an address on "The Saloon and the State." I hope you will excuse my ignorance when I tell you that I did not know before that North Dakota as a State has no saloons. I think the judge told us they never have had, although they have had some hard fights with the saloon-keepers. Judge Pollock is a godly man and an earnest Christian, even though he is a smart and successful lawyer. He said that one of the difficulties in enforcing our laws lay in the fact that the lawyers of our land, as a whole, need a good old-fashioned Methodist class meeting temperance revival. If the lawyers could be revived, he said the public officers and the Governor of the State might be expected to join in the revival very soon, especially so far as temperance is concerned. In North Dakota they punish saloon-keepers. For the first offense it is fine and imprisonment in the county jail or workhouse; and for the second offense it is the penitentiary. He said they had recently sent a man to the penitentiary for selling a single glass of whisky—at least, that was all they succeeded in proving clearly against him. He said he knew the man went to the penitentiary, because he himself made out the papers.

A lady from North Dakota followed him, whose name I am unable to give. She was not what might be called a talented orator; but, oh how the honesty and sincerity of her pure Christian spirit shone forth in all her talk! She said business men predicted that their State would suffer from the loss of trade. Along the line of an adjoining State, predictions were made that the Dakota towns would not get the business. She said she visited a large number of business places on both sides of the line to inquire into this matter. She conversed with a large number of business men who had tried it under both conditions. Now, kind friends, it is not always the *amount* of business that a grocer does that settles the question of profit and loss. In one town, when they had saloons they had to trust out

until payday, for groceries and provisions; but the saloon-keeper managed to get *cash down*, while the grocer sold on time, and it seemed so everywhere. The ready money went to the saloon-keeper. When it was gone, the grocer had to trust or see the families suffer. The testimony was overwhelming in favor of no saloon from a business point of view, and the same rule holds good here in our town of Medina. I have watched our place during a period of from ten to fifteen years with the saloon, and I have watched during a like period (bless the Lord!) after the saloon had *gone*.

In a little private talk between the sessions, a gentleman from a western city—I think it was Minneapolis—said they had got so far as to have the city divided into precincts, and they had voted the saloons out of a little more than half of the city. Right here the good work seemed to stick and hang, and it was dragging so slowly that many people were refusing to live in the saloon districts. I need not tell you which side of the city furnished more criminals. Our friend said the difference in the two localities was simply wonderful—nobody pretended to dispute it. Now, if Minneapolis is not the city, let some one tell me what place it was.

I shall not have space to tell you in this paper all I should like to tell; but one of the brightest and most interesting talks was from a Mr. S. P. Thrasher, of New Haven, Ct. Mr. Thrasher said in the outset that he was not a lawyer, a member of Congress, a policeman, nor any thing but an ordinary lay worker. His talk was entitled "Enforcement of Law in Connecticut." Some years ago God seemed to call him especially toward this matter of enforcement of law. He did not say that, but I say it. I think God called Edison to lead all the learned scientific men in electricity. In the same way he called Moody to lead our "doctors of divinity" in preaching the gospel; for you know that oftentimes God chooses "the foolish things of the world to confound the wise; and God hath chosen the weak things of the world to confound the things which are mighty." Well, Mr. Thrasher, without any legal education, without any experience in politics, without any knowledge of the ways in which detective policemen should work, commenced working for temperance. He very soon found out the difficulties in enforcing law. Public officers told him his ideas were good and right and proper, but that they could not be carried out. If they could get one single saloon-keeper off by himself, with overwhelming testimony, they would sometimes secure conviction.* Friend Thrasher's heart was ready to burst with righteous indignation. He was, as I gathered, a man of not very much means. Who is going to fur-

*A little book has just been published, containing a full account of this matter. From it I extract the following from the first and second pages:

Conclusive evidence has been produced that the gambling interests of the State were handling more than ten million dollars annually. Illegal liquor-dealers were thriving in all parts of the commonwealth. Houses of prostitution were flourishing along the streets of our cities and highways of our towns. The vilest sort of obscene literature was being distributed, apparently without fear of punishment. Those interested in these different lines of evil-doing appeared to have joined forces, thereby forming a powerful alliance against law and order.

nish the money for this expensive work? He commenced at the beginning by forming a "Law and Order League." When he had a case he sounded his witnesses thoroughly. If it was a jury case he left no stone unturned to secure an honest, fearless jury. Then he managed to get officers of the law up to a pitch where they did not shirk duty. In fact, he surrounded them with earnest, honest men so they could not very well evade duty. He succeeded in getting convictions. Afterward he asked good and able men to help pay the expenses, and they did so. To make a long story short, he prosecuted 178 saloon-keepers, gambling-dens, and houses of ill-fame in the little State of Connecticut, and secured convictions in every case but 14. His final masterpiece was in attacking a gambling-den partly in Connecticut and partly in an adjoining State. They were so well intrenched, and had so much money, that the officers of the law had been afraid of them. They were desperadoes, too, and the man who meddled with them would be likely to lose his life. Friend Thrasher visited the Governor of the State, showed him his past record, and told him what he wanted to do. May I say God influenced that Governor so that he caught some of friend Thrasher's enthusiasm, and promised him all the aid he could give? He worked the case up with more time and pains than he had ever done before. He went to New York city, and secured detectives who were not afraid to undertake the job. He managed to have an officer for each gambler. The whole gang (21 of them) were arrested at once. When they recognized the situation, and discovered they were outwitted, they gracefully yielded, but managed to furnish bail. When they saw how friend Thrasher had cornered them they jumped their bail, and left \$17,000 in the State of Connecticut, and gambling in that vicinity received its death-blow, as a reward for having cleaned out a thing that had been a disgrace for many a long year. Friend Thrasher has published a full account of this transaction, in a little pamphlet which he has had printed for the benefit of other States that wish to go and do likewise.* For about half an hour he answered questions in regard to the enforcement of temperance laws. Somebody asked him how many more Thrashers they had down in Connecticut. He said three little ones were all that he knew of. They were in his own home, and it was for *their* sakes he had taken up this work.

The next session of the Anti-saloon League will be held in Cleveland, some time next December. I will see that you are informed of it in time if you want to go. Meantime hunt up the organization in your own State; get into the harness, and help pull, and may God give you "Unity," "Persistence," and, finally, "Victory."

*The following is another extract from the little book I have mentioned:

Just before the Willimantic fair of last year, the Willimantic Christian Endeavor Union appointed a good citizenship committee, with instructions to co-operate with the Law and Order League, with a view of preventing, if possible, all gambling games, and immoral shows in the fairground. Our secretary and a force of detectives went to Willimantic for the purpose of making investigations, and entering complaints against



After the session of the Anti-saloon League, while waiting for a train I went over to the State University. I first gravitated toward the greenhouses for growing vegetables under glass. As usual, the largest building was filled with a beautiful crop of Grand Rapids lettuce. The man in charge told me the demand was ahead of the supply all the time. The plan of growing it is not much different from what I have described heretofore. The seed is started in little trays, or flats. The sides of these trays are made of stuff about an inch square. I suggested that such boxes are heavier to handle than they need to be; but the attendant explained that the bottom was made entirely of lath, with spaces between the lath. The soil is, therefore, only an inch or so deep. Whenever the plants need watering, the tray (plants and all) is set in the water-bench. When well soaked it is set out, and the open bottoms made of lath give most perfect drainage. The plants from these little trays are set out in other trays about two inches apart. These are treated and watered just like the others until they begin to crowd; then they are set into large beds, where they make their full growth, about seven inches high from center to center. For spacing in the boxes, at first transplanting they use a board with pins set in at right distances. Each tray holds about 70 plants, if I am correct.

Some of the boys who have been in our employ are now students at the University, and I was told their recitation would be over at just ten o'clock. As the recitation closed I had the pleasure of meeting them. It was in the geological or museum building; and our veteran friend Prof. Orth, together with the boys, proceeded to show me some of the recent "finds" from our State of Ohio. First and foremost, for it is the most conspicuous thing in the whole great building, was the skeleton of a "mastodon," found in one of our Ohio swamps a year or two ago. While this is not the largest one in the world, it ranks fairly with those in different collections. Prof. Orth told me there was a singular circumstance connected with the finding. When the monster's jawbones were discovered and pried out, farmers and others in the neighborhood began smashing them up with axes and crowbars to get the huge teeth. When somebody notified him, and he went in behalf of the State to get the valuable find, he had great trouble in hunting up all the teeth that had been carried

law breakers, if it became necessary. In some way it was known, or least suspected, that the agents of the League were in Willimantic, and between twenty five and thirty professional gamblers left the city before the fair opened. Nothing objectionable occurred in the gambling line until about noon of the second day, when our agents reported that five games were in operation. Our secretary, in company with the president of the Christian Endeavor Union, visited the fairgrounds and warned the proprietors of the five stands that they would be arrested if they continued their games. In thirty minutes they had pulled up stakes and left the ground.

Any who wish a copy of this pamphlet can have it by addressing S. P. Thrasher, 82 Church St., New Haven, Ct.

away, and even though he offered large prices for them. The whole skeleton is worth to the State four or five thousand dollars, and it was a great deal of trouble indeed to hunt up the pieces and put them together so as to make good the damage done by this thoughtless sort of vandalism. It seems strange that there should be such stupidity among our people. If they would visit our experiment farms and State University a little more they might possibly learn some valuable lessons. Of course, the State paid every person for his particular piece; for such things belong, I believe, to the finder, respecting, of course, the rights of the person on whose land the discovery was made. Now, they did not find a complete skeleton in that swamp, although they found a large number of bones that in all probability belonged to that individual animal. Bones, tusks, and teeth have been picked up in different parts of the State, indicating that this was the feeding-ground of these great creatures away back, perhaps before man set foot upon this soil. They collected as many bones as they could, that had been found, as I have told you, and then supplied the missing ones as nearly as our best scholars and professors could figure out how they probably were. I asked a multitude of questions, and was surprised that so many of them could be answered. He was a vegetarian in his diet, living on branches and leaves of trees.

"Would you like to see what he partook of for his last meal?" I was asked.

"But, can you tell?" I replied.

"Oh, yes! we can tell you. Come this way."

Then the professor showed me a basketful of chewed-up sticks, apparently; but they were the petrified remains of the sticks, and very likely they were the contents of his stomach when he got "swamped" in that muck-bed. Why don't we have mastodons now? Well, climatic changes may have had something to do with it. Environments have changed. Did God make elephants, mastodons, and every other animal we have now, and all those that have lived on the earth since the morning of creation? Probably not. Our fleet, slender-limbed race-horses and our huge Clydesdale roadsters are almost as different from each other as are mastodons and elephants; yet the two kinds of horses, without doubt, had a common origin or parentage. In fact, animals are changed in form and weight to suit the wants of man, even during the span of one single human life.

In the dairy buildings I met some more Medina boys, and I was agreeably surprised to find one of our veteran bee-keepers, Mr. H. J. Noyes, of Richland City, Wis., installed as teacher or professor of scientific butter and cheese making, if you choose. The new dairy building is a very handsome structure, and the walls of the building inside are made of milk-white enameled tiling or brick. Every inch of it can be kept as clean as a new dinner-plate, and the boys are expected to keep it this way. The members of the class are all neatly attired in white canvas overalls and jackets. They also had white caps, and I pre-

sume they are expected to *keep* them white and clean. And a nice lot of boys they were. If I were a girl, and wanted to get acquainted with some of the nicest boys there are in the whole State of Ohio, I think I would visit that dairy building. It used to trouble my conscience a little because I took more interest in a class of nice-looking girls than in a similar class where they were all boys. Well, now I am either getting older or else the boys are getting nicer, or may be both, for I enjoyed shaking hands with those boys, and looking into their faces, and watching their movements, as much I ever enjoyed being with any class of the opposite sex. Let me digress a little.

When I first came on to the grounds I stopped in mute wonder to look at the beautiful architecture of a new building, or, rather, pile of buildings, that is just in process of erection on the University grounds. Nobody said so, but I should call it Moorish architecture. Perhaps I got the idea from the great hotel at Saint Augustine, Florida, which is built on this type. I think I never saw so handsome a building before in my life—I mean this Ohio building, for it is all *real* work and real stone. There is not any whitewash so as to make pitch pine look like solid masonry. All that marred my enjoyment in looking at it was to think of the tremendous expense that it must have entailed on the State. It is built for a gymnasium. Well, the dairy buildings are equally fine, although, of course, they have not the ornamental work about them. How shall our State of Ohio get this money back? Well, I think I can understand this part of it. Those boys are at work with the best apparatus for making butter and cheese that the world can furnish. In fact, they are testing the work of all prominent manufacturers. They are also learning the very best and latest methods. You have all heard more or less about the "creamery shark." May be *some* of you have had *your* fingers burned. This swindle is worked by having some sharper induce the farmers to combine and set up a creamery. They charge the farmers two or three prices for the apparatus, giving them something that is not the best, then put in a manager who swindles them again, and so on it has been swindle from beginning to end. Now, our State University is going to stop this whole business. Our Ohio boys—boys reared in good honest homes on the farm—are becoming posted. They learn at this State institution what such machinery is actually worth; then they know just how to make it do its best. The farmer can not be swindled, because *his own boy* has charge of the thing. The boy is educated to the business, and knows at a glance when the sharper tries to take advantage of him. Our State of Ohio is abundantly able to furnish good machinery; and not only that, but handsome and attractive surroundings for the schools where our boys are being educated. Another thing, sometimes it does not cost any more to make a handsome and imposing structure than it does to build an awkward and misshapen one. Some of these new buildings appeared to my

love of the beautiful like strains of sweet music, like beautiful flowers, or like the hum of the bees. If money is wasted no more foolishly in any part of our State than it is on the University grounds, I say, "May God be praised." An honest Christian boy, educated at our State University, is worth a hundred of the sort that grow up amid the surroundings of the saloon, with the tobacco and whisky element for accompaniments; and in time to come I expect them to utterly route the whole whisky ring, not only from business places, but I expect them to fill the important offices of State and nation.



GARDENING FOR PLEASURE (?)

Some of the friends have thought I presented a little too much of the pleasant features of gardening—especially gardening under glass. Well, I will give a little of the other side this time. The greater part of January has been very warm; in fact, the whole week from the 16th to the 23d was almost without frost. Saturday night the barometer dropped "way down." As the Weather Bureau said "rain during the night," and clearing off the next day, I thought we should have a tremendous rain. Instead of that it was a tremendous *blow*. Before daylight I felt very uneasy about our sashes. I have never fastened them down, as many gardeners do, as I have always claimed that the expense of fastening them every time they were handled would cost me more money than to repair those blown off by an occasional high wind. But this time the wind came in terrible gusts. It blew "great guns," as the sailors say. About as soon as I could see, I was out Sunday morning for a survey. Sure enough, two sashes were out of the west side of the greenhouse, and lay away off in the garden, with every glass smashed out. I hustled Huber out of bed, and we two got some sash in, in place of these. By the way, all the sash in the greenhouse are usually fastened in with screws. In our special plan of a greenhouse, the glass overhead is permanent; but on each of the four sides it is removable for convenience in getting in manure, working crops, etc. These two had been taken out because it was easier to transplant some lettuce in that way. When they were put back the boys had failed to fasten them. I let Huber go back to the house, thinking I should not need him further; but I waited, hoping the wind would go down. The barometer, however, gave me no encouragement. I busied myself by placing heavy stones on the sash most likely to be moved; but finally a tremendous gust came and almost stripped the fifty-foot bed just fronting the roadway. It looked funny to see those 3x6-foot sash flying in the air like a lot of feathers; and it looked *still* funnier when three or four of them crashed through the greenhouse. For a time I thought

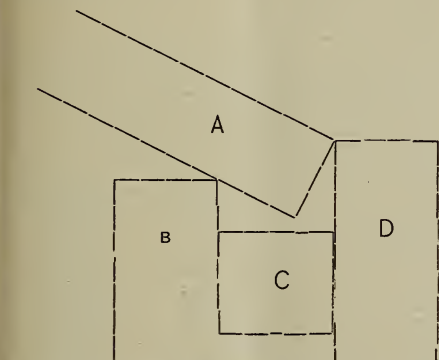
said greenhouse and contents were doomed to destruction. The wind let up a little, and I wanted help badly, but I didn't dare to leave to go after any. But it was too early in the morning for anybody to be up. I tried to handle our light wooden shutters so as to protect the greenhouse from the blasts which were now coming more from the west, and they were also beginning to get freezing cold. Just in the nick of time our teamster, who weighs something over 200 lbs., came along. When I undertook to handle a light shutter it made me think of the flying-machines that are now being used successfully to let a man "glide" down a steep hillside. I pretty nearly glided out among the glass sashes where I did not want to go. When the heavy teamster caught hold of them, however, he handled them something as he does the Clydesdale team when they have had rather too many oats. With Mr. Bowman's help we got the greenhouse covered with sashes, with a big stone on each sash, so our plants were tolerably safe.

By this time Fred and Frank got around to take my place while I went home for a nine-o'clock breakfast on Sunday morning. In fact, I was more tired out than I have been on any week day for some time. I managed to get a nap after breakfast, however, before time for church. We had a grand sermon from Bro. Mattson, as usual; but, unfortunately, my mind seemed to dwell on the spectacle of those flying frames of glass. Again and again I pulled it back to the sermon; but it was something like carrying a shutter in the wind. Now, I *tried* not to do any inventing—especially during meeting time; but the thing *would* "invent" in spite of me—at least I am afraid it invented to some extent on Sunday, and here it is:

HOW TO KEEP YOUR SASHES FROM BEING BLOWN OFF BY THE WIND WITHOUT THE NECESSITY OF HOOKING THEM FAST.

In our locality our heavy winds are almost all from the southwest, veering around toward the west. Well, there are at least four long beds out in the garden, where not a sash was moved. Right during the tumult I kept wondering why none of these sashes caught the wind, and I discovered the reason. Owing to some changes in the make-up of the bed, a strip of wood was left in front that reaches up a little above the sash right down where the eaves come. This absolutely prevented the wind from catching under the eaves to start them up. The arrangement is not a very good one in one respect; for during a heavy rain the water comes down inside of the bed, where it is not wanted. All surplus rain water should be carried over outside of the bed. But this can be managed by having this front board that comes up on the south side kept away from the plank inclosing the bed, by strips say $\frac{1}{2}$ inch thick. This will let the rain water go down outside of the bed. The sash may be pushed down so as to come tight against this board. An objection may be made that you can not catch your fingers under the

eaves to lift your sash. This objection, however, is trifling, for two people are needed to handle the sash. The one on the north side raises his part first, draws it back a little, swings up one corner, and his companion then takes hold. The sashes can be handled almost as easily as if this strip along the eaves were not in the way. At the west edge of each bed the end board should rise above the sash-bar so the wind can not get under there; and the sash should always be all *on* or all *off*. Be careful about having them tilted for ventilation when there is danger of a heavy wind. Perhaps the diagram below will make it a little plainer.*



A, side-bar of sash; B, plank on south side of bed; C, block to hold "wind-board" away from B; D, "wind-board" nailed to C, for A to strike and keep off wind.

If the sash are made as many of them usually are, with heavy side-bars reaching down a little below the cross-piece of the bottom of the sash, when these side-bars strike the strip of board that cuts off the wind there is room for the water to run down the glass and fall on the ground, and there is also room to catch hold of the lower edge of the sash in handling. This extra board will probably be worth all it costs, to keep out frost from the side of the bed.

*Jan. 26.—Since the above was written I have had a chance to fix some of my beds as shown in the diagram, and also to test their value. A day or two after the blow mentioned, we had another one almost as strong; but I was watching the barometer closely, and knew what was coming. It dropped clear down to 28 inches in our locality. The bed where the sashes sailed so beautifully was surrounded with strips of eight-inch pine boards. In every other respect the sashes were on just the same—not one was moved. A barometer, under such circumstances, will pay for itself a great many times. We fixed our other beds by picking up old boards long enough to reach across several sash, weighting the board down with a big stone or two. In this way not a sash was moved. The barometer did give warning on the first occasion, but most of the dropping was after dark. In correspondence with the Weather Bureau they tell me the fall of the mercury was almost unprecedented. Our readers have by this time, without doubt, read of the terrible disasters caused by this same wind on the night of the 22d of January, and morning of the 23d. Any one who has much property liable to be damaged by wind can hardly afford to be without a barometer. I have for years been in the habit of giving the man, who has charge of our lumber-yard, notice of the coming of heavy rains, and especially heavy winds; and considerable losses have been averted by fixing things beforehand ready for the blow.

FARM GARDENING, ETC.

Mr. Root:—I write to tell you how much help I have gotten from your little talks on high-pressure gardening and your sermons. How eagerly I await each number of GLEANINGS! I have been combining farming, gardening, bee-keeping, and dairying on a 70-acre farm which was in very bad shape when we came. My hired help has received all the cash I took in. Seasons were bad, crops poor; but we are putting ground in good shape. I trust I shall succeed better the coming year, as I have greater faith in God, and try to work according to your teachings.

My soil is a poor hard clay on hill ground; has not been in wheat for a long time; heaves out plants in winter. A 16-acre field is now barren. When would you advise plowing, to sow in oats and clover? when to turn under to make good soil? It drains easily; can not stand drouth. What is the best thing to do with it? It will not bring corn.

There is a large sawmill here that runs all the waste wood into a huge furnace 100 ft. high and 25 feet in diameter. Every Saturday they clean it out, throwing out 10 or 12 two-horse wagonloads of ashes which are sold for 35 to 50 cts. a load. Would you advise a coating of these ashes, and tell me what crops they are good for? They are wet when thrown out.

Your transplanting-tubes are fine, but they cost too much. I set out 2000 tomato-plants by your process this year. I take two or three boys to town in a large wagon, and we go through alleys and to old dump-holes and get all the tin cans we can find. The boys think it's fun. We take them home, kindle a fire in an old stove, and get the top red-hot; set on our cans, and in a few minutes the solder melts, and, with a few taps of a small stick, the end drops off, leaving a nice cutting edge to shove in the ground. In this way I got about 800 nice transplanting-tubes without paying a cent. I believe many readers of GLEANINGS will hail this kink with delight. These cans are better than tubes, as tubes will cut your hands when shoving into the soil, while on tin cans the end cut open by the consumers of the contents is trimmed round with an old pocket-knife, leaving $\frac{1}{8}$ inch margin of lid to reinforce the sides and preserve its shape. Any one living near a city or town can get a wagon-load in an hour or two.

J. C. WALLENMEYER.
Evansville, Ind., Nov. 30, 1897.

On most soils ashes will pay, without question, friend W. Before investing very much in them, get a few loads and run them on strips through your ground. Put them on pretty heavy. On your first crop you can tell what effect the ashes will have. Spread them in the same way on clover and grass. They are almost sure to produce a good affect. Of course, much depends on what kind of wood the ashes are made of. If plants heave out on your clay soil, it is pretty good evidence that it needs underdraining. In fact, underdraining is at the bottom of every thing to get your ground in good order. If your ground has nothing on at all, you can plow it any time in the winter when it is in proper order. Leave it just as the plow turns it over, and let the frost work it up; then, when it is dry enough in the spring, fine it up and put in your crops. I think cow peas would be a splendid thing to get such ground ready for clover. Ashes will be tiptop for corn, and for potatoes also, if they do not produce scab. You can tell by trying. One great trouble with the gardening business is in getting competent help without having to pay too much. Your home-made transplanting-tubes, if they are handled carefully, will do excellent service.

SWEET-CLOVER SEED—GATHERING IT WITH AN UMBRELLA, ETC.

I contemplate putting in some acres of sweet clover as an experiment and educator along that line, believing that it is destined to become popular as a forage for stock as well as bees. I have tried twice by sow-

ing in spring, and failed in both instances. If I try again I will scatter seed on the snow. By the way, inquiry was once made in GLEANINGS as regards the best method of saving the seed. I once gathered a bushel in two hours by pushing an inverted umbrella up close to the stalk, and an assistant bent the tops over it and beat off the seed with a stick.

Bedford, Ohio, Jan. 3.

J. B. HAINS.

There certainly is something strange about the difficulty of getting sweet clover to germinate. Our experience is that, where it drops from the stalks on to the ground where it grew, it will come up in great profusion. We have never known this to fail, even on the hardest ground, and there it grows the best. Can somebody tell us more about it? I think, friend H., you must be a Yankee, or you would not have thought of using an umbrella for gathering seed. Our plan was to spread a large sheet over the wagon-box, then cut the stalks as carefully as we could, and thrash out the seed on the sheet. But a great deal dropped off on the ground, which we could have saved by your umbrella arrangement. I would suggest shaking off what you can in the umbrella, and cutting the stalks and thrashing out the rest. It certainly is proving to be a valuable plant in many places, or we should not be selling the seed every year by the ton.

AN OHIO BULLETIN ON WEEDS.

I have been greatly pleased to look over a bulletin of about 150 pages describing and illustrating the weeds of Ohio. It comes from the Experiment Station, Wooster, O., and is by Prof. A. D. Selby. Almost every weed is so plainly pictured that the average farmer will recognize them at a glance. Then their habits are described, and the best methods of eradication suggested. I hurriedly looked up the weeds I had become familiar with, and was greatly pleased to see that they had come to about the same conclusions I have. A great many times, time and strength are just about wasted because we do not go at the work in the right way. For instance, we read:

Weeds that are "indicators," i. e., diagnostic of soil conditions, are most cheaply controlled by removing the condition. Drain wet places to avoid sedges, apply lime or fertilizers to crowd out sorrel.

You see, thoroughly draining a piece of ground will of itself, while helping a crop, often do away with certain kinds of weeds; or the application of lime may benefit a strawberry-patch, and at the same time wind up the sorrel nuisance entirely. Again:

Some weeds may be eradicated while others may be only subjugated. Canada thistle is often eradicated in a particular spot, while for prickly lettuce this is a recurrent problem everywhere. The latter can not now be eradicated, while it may be subdued.

And so it is all through the book. Every person who has any thing to do with farming or gardening should send to Wooster, O., for Bulletin No. 83. If you are outside of this State, they will probably tell you how to get a copy. Why, if this bulletin were in the hands of every cultivator of the soil, and thoroughly studied, it would be worth millions to our State.



THE OHIO DAIRY AND FOOD COMMISSION AND THE PATENT-MEDICINE MEN.

I said to myself, "May the Lord be praised!" when I first had notice that our Ohio Food Commission had taken hold of the matter and made investigations in regard to the character of patent medicines. Let me quote briefly from Bulletin No. 2, dated Dec., 1897, from Columbus, O.:

Numerous complaints have been made to me as to the terrible effect of certain preparations known as patent medicines, and I have, for several months past, conducted a very careful examination into this line of goods. The amount of dangerous narcotic drugs and active poisons sold in this way almost passes belief. In recent years preparations have appeared on the market for the cure of various complaints, notably catarrh, the sole remedial value of which appears to be the use of hydro-chlorate of cocaine or morphine, sometimes both. The effect is simply to drug the victim into fancied security by giving temporary relief, and completely and utterly destroying the mental, moral, and physical nature of the persons using these dangerous mixtures.

I have begun proceedings in a number of cases to compel the proper labeling of these drugs in order that the consumer may be advised of their extremely dangerous nature. I have sought to compel the manufacturers and dealers to attach the poison label to these preparations as required by the label law of 1890. Out of the seven prosecutions made, four have plead guilty up to the present time. Of the three remaining I expect very interesting contests on account of the great financial interests involved, as some of the manufacturers have openly boasted of their intention to fight and make it "hot" for the Commissioner. They have succeeded in arraying a few newspapers against the Department by misrepresentation and the threat to withdraw advertising patronage. I am pleased to note, however, that the vast majority of newspapers refuse to be influenced in this manner by people who have grown rich by destroying the health, happiness, and even the lives of innocent people who are induced to take these vile preparations under the assurances that they contain no dangerous drugs. The moral principle is so evident in these cases, that I am surprised that any fair-minded person would have the assurance to insist that they have the right to drug people into a state of insanity, while pretending to cure some ordinary complaint.

It is my intention to ask for legislation to strengthen the statute referred to on this question; and the statute governing the prescribing and the sale of poisons should, in my opinion, be so amended as to forbid the re-filling of any prescription containing cocaine, opium, or any of its salts, chloral hydrate, or arsenic; and there ought to be a law forbidding the sale of these drugs except on the prescription of a reputable physician.

Now, friends, let us stand by our officers who are trying to enforce the law. If you want to know all about the different kinds of food and medicines we use, and their adulterations, write to J. E. Blackburn, Dairy and Food Commissioner, Columbus, O.

THAT ELECTRIC FLASH-LIGHT LAMP.

The portable electric flash-lamp I spoke about some months ago does not hold out. It worked well for about a month. Seventy-five cents for a set of dry batteries once in thirty days is almost too expensive. There has been nothing yet made to answer the purpose that I know of, unless it is the storage battery; and this can not well be got down under six or seven pounds, which would make it too heavy to carry about.—A. I. R.